97th Congress
2d Session } JOINT COMMITTEE PRINT

THE MERCANTILIST CHALLENGE TO THE LIBERAL INTERNATIONAL TRADE ORDER

A STUDY

PREPARED FOR THE USE OF THE

JOINT ECONOMIC COMMITTEE
CONGRESS OF THE UNITED STATES

DECEMBER 29, 1982

Printed for the use of the Joint Economic Committee

U.S. GOVERNMENT PRINTING OFFICE
12-793 O WASHINGTON : 1982

J842-43

JOINT ECONOMIC COMMITTEE

(Created pursuant to sec. 5(a) of Public Law 304, 79th Cong.)

HOUSE OF REPRESENTATIVES	SENATE
HENRY S. REUSS, Wisconsin, *Chairman*	ROGER W. JEPSEN, Iowa, *Vice Chairman*
RICHARD BOLLING, Missouri	WILLIAM V. ROTH, JR., Delaware
LEE H. HAMILTON, Indiana	JAMES ABDNOR, South Dakota
GILLIS W. LONG, Louisiana	STEVEN D. SYMMS, Idaho
PARREN J. MITCHELL, Maryland	PAULA HAWKINS, Florida
AUGUSTUS F. HAWKINS, California	MACK MATTINGLY, Georgia
CLARENCE J. BROWN, Ohio	LLOYD BENTSEN, Texas
MARGARET M. HECKLER, Massachusetts	WILLIAM PROXMIRE, Wisconsin
JOHN H. ROUSSELOT, California	EDWARD M. KENNEDY, Massachusetts
CHALMERS P. WYLIE, Ohio	PAUL S. SARBANES, Maryland

JAMES K. GALBRAITH, *Executive Director*
BRUCE R. BARTLETT, *Deputy Director*

LETTERS OF TRANSMITTAL

DECEMBER 20, 1982.

To the Members of the Joint Economic Committee:

Transmitted herewith is a study entitled "The Mercantilist Challenge to the Liberal International Trade Order," by John Zysman, associate professor of political science, and Stephen S. Cohen, professor of planning, both of the University of California at Berkeley. In addition to their classroom duties, Professors Zysman and Cohen are codirectors of the Berkeley Round Table on the International Economy.

The study of the mercantilist challenge focuses on the targeted industrial strategies of foreign countries and their potential impact on the future growth of the U.S. economy. The study looks at foreign policies designed to preserve employment in a range of existing industries as well as policies crafted to spur the development of new industries. In the view of Zysman and Cohen, America's reaction to the new mercantilism may determine "which countries will most fully take advantage of the growth possibilities new industries represent."

The emergence of mercantilist policies overseas has placed the United States on the horns of an economic dilemma. On the one hand, the United States has been the principal architect and the driving force behind the liberal trading order. On the other hand, the ability of the United States to play a peacekeeping role in past international economic disputes has largely rested on America's dominant economic position in the world. As other economic powers have emerged, it has become progressively more difficult for America to continue to ignore economic practices that take their toll on the U.S. economy. To maintain a leadership position on international economic matters, the United States must maintain a strong, growing economy. That may require government action to counter foreign industrial policies. For the authors, the dilemma lies in the fact that those American ". . . policies that would most effectively defend the competitive position of American firms might well further undermine the open trading system itself."

What can we do about the new mercantilist challenge? The authors do have some prescriptions. First, they suggest negotiations within the GATT (the General Agreement on Tariffs and Trade) over industrial policies that distort international competition. Second, they urge the adoption of a series of policies that will improve the competitive position of U.S. industries. In the authors' views, such policies will be much needed bargaining chips at the negotiating table as well as necessary components of a program to promote the growth of U.S. industry.

The authors do not pretend that international negotiations over industrial policies will be easy. In attempting to strengthen the rules for the international market place, the United States will be pushing

against longstanding European and Japanese policies. The U.S. position will be further complicated by some of our own practices. Europeans point to U.S. Government spending on military and space research as a back door industrial policy that has helped create America's strong international position in civilian aircraft and computers. Finally, the authors are concerned about the limited range of policies for U.S. industries that face serious international competition. For the most part, the United States either has ignored international competition or resorted to trade barriers. The authors urge a more comprehensive approach. For instance, in the case of semiconductors, an industry widely viewed as crucial for the Nation's future, the proper response may include policies that improve the industry's access to capital or policies designed to increase the supply of electronic engineers.

The committee is indebted to Professors Cohen and Zysman for developing a useful and timely analysis of the new challenges for U.S. trade policy. The project was coordinated for the committee by Dr. James K. Galbraith, Executive Director, and by Dr. Kent H. Hughes of the committee staff.

The views expressed in the study are those of Professors Cohen and Zysman and do not necessarily represent the views of the Joint Economic Committee or of its individual Members.

Sincerely,

HENRY S. REUSS,
Chairman, Joint Economic Committee.

DECEMBER 13, 1982.

Hon. HENRY S. REUSS,
Chairman, Joint Economic Committee,
Congress of the United States,
Washington, D.C.

DEAR MR. CHAIRMAN: I am pleased to transmit a study entitled "The Mercantilist Challenge to the Liberal International Trade Order." The study was prepared by John Zysman, associate professor, political science at the University of California, Berkeley, and Stephen S. Cohen, professor of planning at the University of California at Berkeley.

The views expressed in the study are those of the authors and do not necessarily reflect the views of the Joint Economic Committee or of any members.

Sincerely,

JAMES K. GALBRAITH,
Executive Director, Joint Economic Committee.

CONTENTS

	Page
Letters of Transmittal	III

THE MERCANTILIST CHALLENGE TO THE LIBERAL INTERNATIONAL TRADE ORDER

The Liberal Economic Order: The GATT System	3
The Liberal Economic Order at Work	5
The Mercantilist Challenge: The New Issues	8
Creating Advantage	8
Managing Surplus Capacity: The Second Problem	31
New Wrinkles in the Export Game: The Third Problem	42
The Policy Problem	52
An American Response to the Mercantilist Challenge	56
Notes	63
Appendix A. Creating Advantage	69

THE MERCANTILIST CHALLENGE TO THE LIBERAL INTERNATIONAL TRADE ORDER[0]

by

John Zysman, Associate Professor, Political Science, at the University of California, Berkeley

and

Stephen S. Cohen, Professor of Planning at the University of California, Berkeley

Stephen S. Cohen and John Zysman jointly direct the Berkeley Roundtable on the International Economy at the University of California, Berkeley.

Prepared for the Joint Economic Committee, U.S. Congress, 1982

November 1982

The international trade conflicts that now appear so prominently in the press are not simply ordinary trade frictions that can be dealt with in a routine way through existing institutions and within agreed rules. Nor are they simply the unhappy consequences of an international economic decline that will melt away with the first burst of economic upturn.

A few years ago it seemed that the goals of free trade could be preserved by some system of "organized muddling through." It was believed that the elimination of non-tariff barriers could be negotiated in the same fashion that had so successfully achieved reductions of more direct limitations on trade during the previous generation. Three developments highlighted this view. They focused attention on the private actors in international trade and obscured the enduring ability of governments to shape economic outcomes: (1) the American discovery that national economies, even the American economy, were interdependent, that is, sensitive and even vulnerable to developments abroad; (2) the dramatic evidence of the ability of multinational corporations to formulate international strategies and to operate across political, and cultural boundaries; and (3) the rapid expansion of the eurocurrency markets to produce an international financial system of similar scope to the one inside the United States, but outside the control of any governmental authority. Compared to these new and powerful forces government interventions were treated as relatively negligible, rather rearguard, exceptions to a transforming liberal order.

The objective of an open trading system remains as important as ever: competitive protectionism contributed to and aggravated the Great Depression. But the task of sustaining open trade is likely to prove ever more difficult because of the state-centered practices that were developed in response to changes in production and in the international division of labor as well as to the economic troubles of the 1970s and 1980s. The present trade problems will prove more enduring than the political controversy over pipeline sanctions, or the aggressively low value of the yen, or even the severe economic downturn that has exacerbated sectoral tensions. American policy, consequently, faces a real dilemma, because those policies that would most effectively defend the competitive position of American firms might well further undermine the open trading system itself.

The liberal trading system is a remarkable achievement, whose contributions to post-war growth were substantial. These new conflicts are the signs of fractures in this mature trading system, fractures that appeared under the weight of problems and events that were not central when the current arrangements were established and that cannot be easily resolved within its logic and rules. Basic conflict over national economic position and advantage underlies many of the present trade troubles. In the narrowest sense it is a question of which countries will create substantial commercial advantage in the growth industries of the future and of which countries will be able to defend employment in today's mainline industries during that sectoral transition. More broadly, the very international rules setting the appropriate roles for government in national and international economic life are being challenged and the premises of mutli-lateral trade arrangements are being questioned.

There are those who believe that reordering the international monetary system and, in particular, the setting of stable and workable exchange rate parities, would resolve many of the sectoral trade problems we now encounter. The present valuation of the American currency and the rapid shifts in monetary values that dramatically alter the competitive position of firms without any change in the underlying industrial reality, certainly create problems that might not exist otherwise. This paper, however, considers the proposition that neither a restructuring of the monetary system nor a quick technical fix in the trade rules will dissipate the basic challenge to the present trade order. Unless we are careful, a real struggle about international economic position and national distribution of future economic growth—problems never raised within the GATT system—will result in an unmanageable burst of mercantilism that will undermine the present liberal trade system.

THE LIBERAL ECONOMIC ORDER: THE GATT SYSTEM

The rules and arrangements that govern most international trade are set forth in the General Agreement on Tariffs and Trade. They are referred to here as the GATT Trade System.[1] That system has evolved through seven multilateral trade negotiations, the most recent being the Tokyo Round. The objectives from the beginning have

12-793 O - 83 - 2

been to reduce substantially tariffs and other barriers to trade by reciprocal trade agreements and to assure that all nations would be treated the same. All countries would receive "most favored nation" treatment, that is concessions made to one nation would apply to all parties to the multilateral agreements. To maintain the general principles, deviations in practice from the GATT principles have been framed as exceptions and "escape clauses." Trade zones such as the British Commonwealth which existed before GATT, preferences to developing countries, and regional free trade areas and customs unions have all been tolerated. For national industries which are damaged by specific reductions of trade barriers, there are escape clauses that allow governments to impose import restrictions to ease adjustment. As protections against inequities there is a series of arrangements to permit government retaliation against dumping or subsidization. The protections against dumping and subsidy merit attention. Through them, domestic policies that distorted trade were made the subject of international negotiation, though no multinational enforcement procedures have ever been established.

The objectives of unrestricted and non-discriminatory trade were intended to increase economic efficiency.[2] Since production costs and production structures in the various advanced countries were thought to converge, it was believed that expanded trade would result in greater specialization.[3] Consequently, trade between nations could grow without the pains of massive dislocation of workers and firms. For example, in the machine tool industry, Germany might capture a large share of the market for some tools, while the United States would become increasingly dominant in other segments of the market. No advanced industrial country would face absolute losses in its share of trade in any sector, or at least in its share of trade in a set of related sectors. The implication is that countries should produce what they make most efficiently and trade for the rest. Even the country with an absolute disadvantage—a higher domestic cost of production for all traded commodities—gains from free trade by importing those goods in which its absolute disadvantage is least. The sectors in which a nation is relatively strongest, compared to other sectors in the same country, is where that nation's comparative advantage can be found. Comparative advantage, usually assumed to depend on relative factor

proportions or availabilities, is "revealed" by examining what goods a nation trades under conditions of free trade.[4] Product specialization by companies and higher incomes for all trading nations would result from expanded exchange. There would be only winners in the trade game: the general welfare would increase for all. After the self-defeating era of protection between the World Wars, the gains from expanded trade in the post-World War II era were exhilarating.

The GATT system has, then, been constructed around a set of definable premises. First, trade arrangements that are built on multilateral negotiations among all nations are preferable to bilateral or other partial arrangements. Second, trade will be conducted by private actors in markets in which prices are set by a free interplay of supply and demand. Third, free trade will generate the expansion of all economies, if only each will bear the strains of internal expansion and adjustment. Fourth, government intervention is seen as a distortion of the market aimed centrally at delaying domestic adjustment to international price signals. When considering trade among advanced countries this view ignores or denies the potential influence on trade of development strategies on domestic structure. It assumes that national differences that might be considered trade barriers can be negotiated away in the same manner as tariffs and quotas. Moreover, eliminating external barriers and putting up internal pieces of the domestic economy on the negotiating auction block are in fact very different things.

The premises of the GATT system only awkwardly fit many of the new realities of international trade. The assumption—half fact and half fiction—that governments are negotiating about the rules of trade, leaving the market to settle the outcomes, is increasingly less tenable. Governments are increasingly negotiating directly about trade outcomes. Moreover, in each of the issues discussed below the rules of the domestic economy and the appropriate use of national government power in the world economy themselves become the subject of negotiation.

THE LIBERAL ECONOMIC ORDER AT WORK

For a generation at least the liberal trade system lived up to its billings. Trade among the advanced countries did expand dramatically. Expanded trade did result in greater

sepcialization of production, and undoubtedly contributed to the long economic expansion.[5] Indeed, these developments were important enough to provoke new economic theories to account for them. Although the determinants of changes in competitive and comparative advantage have been largely overlooked in most models of international trade, they have been the focus of product cycle theory.[6] In this view, trade in manufactured goods typically follows a set pattern: A country that introduces a good becomes at first a new exporter. As the production of the good becomes standardized, production will move closer to the final market where the good is sold or to a third location where the goods can be produced more cheaply. Events in the years after World War II certainly seemed to confirm this analysis. The American economy was the vibrant source of innovative technology and management technique. It stood at the beginning of a range of product cycles. The American firms established a significant competitive advance, which provoked European fears of an enduring technology gap and of American dominance.[7]

Expanded trade also meant that each national economy was increasingly dependent on events abroad. The openness of each national economy had, by 1980, become quite remarkable. Finance also spun a web of connections among the several advanced nations. Free convertibility of currencies, one of the objectives of the post-war design, meant that domestic money supply and interest rates could not be truly insulated from external conditions. Then, beginning in the 1960s, a true international financial system emerged that was institutionally separate from any national economy and operated outside the purview of any national authority. The American trade deficits in those years meant that more dollars were being paid out for foreign goods and services than were being demanded to buy American products. Ordinarily those dollars would be sold by foreigners back to American banks, creating a pressure to lower the relative value of the American currency. However the American dollar was a reserve currency, which meant that it could be used as a medium of exchange in international transactions and as a banking asset in countries abroad. Consequently, there was a demand for dollars to serve the role of "reserve" and "transaction" curency. The American deficit was consequently translated into a pool of expatriated dollars. By the early 1970s a eurodollar system, dollars held outside the U.S. and used

abroad, had emerged. The estimates of its size were always guesses, but the figure was put at $1 trillion for the year 1980.[8] When the oil crisis hit in 1973, the vast OPEC financial surpluses had to be recycled, that is, moved from OPEC savers to investment and consumption elsewhere, the eurocurrency system expanded mightily. By the end of the 1970s, the pool of funds outside national control was thought to be at least the size of the American money supply. The massive pool of funds that could move electronically from one currency to another at the flick of an economic indicator or the lick of a rumor was a serious constraint on the domestic policy strategies of any government.

The multinational corporation became the emblem of this era in which government sovereignty was put at bay by private economic actors operating across national borders. Powerful market forces worked to produce the MNC. The giant hierarchically structured corporation emerged in the United States in the 19th century as a response to a continental market.[9] This was a profound innovation in economic structure. In the 20th century many of these firms became multidivisional as a means of managing diverse product lines and international as market opportunities appeared overseas.[10] Finally the multinational corporation emerged in which a parent firm directed the managerial, financial, and technical resources available to it and its subsidiaries in a single coordinated global strategy. Certainly during the past thirty years the MNC was a primary vehicle through which American competitive advantage in technology, product development, and management technique was exported or transferred abroad.[11]

Yet the pre-eminence of the MNC was not an inevitable market outcome of improved communications and transportation technology. The extraordinary expansion of the MNC after World War II depended on American international political influence for rules that eased its operations abroad and on domestic laws that tipped corporate choices toward foreign direct investment and away from export strategies.[12]

Importantly, the bargains that host countries struck with the American MNCs depended in the end on the administrative resources of the government and the economic structure of the country.[13] Governments and politics had mattered all along, their influence had simply been obscured. The Japanese showed that a government

could act as doorman to the national economy, breaking up the package of management, finance, technology, and control represented by the MNC and forcing the pieces to be recombined under national authority. A number of cases, the French and Japanese being the best documented, suggest that domestic resources can be mobilized effectively to neutralize or accommodate international constraints.

In sum, attention in the post-war years was focused on the emerging rules of the liberal order and on the constraints international markets and multinational companies placed on governments. While the role of politics and government in shaping economic events has come back into focus, the emphasis still is on the autonomous importance of market events, and the capacity of governments to respond to events, not to shape them. It is not that multinational corporations and private international financial markets have diminished in size or importance, but rather that state strategies to shape markets have become more prevalent, more powerful, and more central to the future shape of the international economic order.

THE MERCANTILIST CHALLENGE: THE NEW ISSUES

The particular state strategies that threaten the liberal trade order of the GATT system can be grouped under three headings:

1. Creating advantage, the developmental state in the liberal economy;
2. Managing surplus capacity, the negotiation of industrial transition; and
3. The state as trader and the problem of barter.

Let us consider these issues in turn.

Creating Advantage

The "developmental" state, of which Japan is the most closely examined example, pursues the competitive development of specific economic sectors in the short run with the long-term purpose of assuring the industrial base required for the expansion of the entire economy. Its central purpose is the promotion of growth.[14] Critical sectors, those that by their links to other industries can affect the entire economy, are thus seen as a form of industrial infra-structure.[15] Such critical industries are treated as the equivalent of roads and bridges in an earlier

era and consequently are seen as an appropriate concern of government, even in a capitalist economy. Japan's systematic government policies sought to move the economy from labor intensive goods such as textiles, to capital intensive goods such as ships and steel; through consumer durables such as televisions and automobiles, into the advanced technology sectors of computers and soon aircraft. The Japanese have demonstrated clearly that under some circumstances developmental policies can work. They have shown the path and the stakes. Other advanced countries have also pursued such developmental goals, but not as effectively in most cases.[16] However French promotion of an internationally competitive civilian aircraft industry has begun to pose serious problems to American aircraft producers.

The governments of the Newly Industrializing Countries (NICs) are attempting to repeat the Japanese trick, starting again at the beginning of the cycle with labor-intensive production or in sectors with stable and easily available technologies.[17] Such late developers have a series of advantages which include the ability to apply the best available technology, which in established industries is not difficult to obtain or to use. The developmental state, then, pursues clearly defined goals of industrial expansion rather than attempting simply to umpire the economic rules while leaving the economic outcomes to be settled in market competition. The developmental state is to be distinguished by its purposes of systematically promoting growth from the liberal or regulatory state of American economic and political theory. The capacity of a government to act as a player in the market in pursuit of developmental goals rests on specific financial and administrative arrangements that in fact virtually demand government intervention in the workings of the market.[18]

The notion that comparative advantage is not revealed as static trade theory suggests, but can be created, lies behind the concerted government strategies to create international industrial advantage that are the core of development policy. In Japan that intellectual argument took concrete form a generation ago as a fight over policy between the Bank of Japan and MITI. As noted above, traditional trade theory does not deal well with questions that do not fit its static orientations and its assumption of perfect competition. More importantly, it certainly does not confront the role government can play in creating

comparative advantage.

The influence of government policies on the dynamics of comparative advantage becomes clear when one allows for the possibilities of differing production technologies in different countries. In most sectors, comparative advantage rests on relative capital endowments, and these are the result of accumulated investment. There are only a few industrial sectors in which comparative advantage is given in the form of fixed natural resource endowment. Consequently, government policy can gradually turn a temporary competitive disadvantage into enduring comparative advantage because government policy affects the gradual accumulation of physical and human capital that underlies production technologies. In short, national comparative advantage is in part a product of national policies over time. This position is spelled out more fully in an appendix to this paper.[19]

The implication is that many governments are attempting to create enduring advantages and to alter—in their conception—the national place in the world economic hierarchy. In competition among the advanced countries, these government strategies create intense trade controversy in sectors such as electronics and aircraft. The U.S.-Japanese high technology trade negotiations—currently underway—are sparked by just these issues. The development strategies of the NICs and the oil-producing countries pose problems in other sectors. Although many American industrialists would like to forbid such state strategies, it would be difficult at best to enforce a judgment that Japanese or French domestic practice is simply illegal. Those who pursue developmental strategies do not accept "free" market outcomes as inevitable or automatically legitimate.

Let us consider two cases in which developmental strategies have affected competition in high-technology sectors among companies from advanced countries: electronics and aircraft. The electronics case will concern us primarily with the Japanese government efforts, while in the aircraft case we will be focused on European and in particular French strategies.

Japanese Electronics. Among the advanced countries, Japan is the most closely examined instance of a developmental state.[20] It is a fast growth system in which the government has made a commitment to promote

aggressively international industrial competitiveness for what are essentially national security purposes. In Japan the objective of creating advantage in selected sectors was organized around a bureaucratic elite which gave purpose and direction to the economic ministries. Those bureaucrats have three sets of tools available to them. The first was administrative discretion, that is, the ability to discriminate in favor of one company and against another. There are no protections of "due process" or procedures of civil litigation to interfere effectively with bureaucratic power. The second tool is a state-dominated financial system that allows state bureaucrats to act as players in the industrial marketplace. That translates administrative discretion into an immediate force in the marketplace. Thirdly, the budgeting procedure is so completely controlled by the bureaucracy that the allocation of state funds is often invisible and certainly not subject to legislative control or even scrutiny. This powerful bureaucratic machine is insulated from detailed political supervision—or interference—by a conservative majority which "reigns," that is, provides the symbols of power and general direction, while the bureaucrats rule.

The state bureaucracy defines and pursues detailed industrial goals, setting not simply general objectives but often specific ones involving the organization of particular sectors. The state is indeed a marketplayer, a role which has no equivalent in this country outside a group of Pentagon-related industries. Consequently it has been mistakenly suggested that within the single management structure of Japan, Inc. there is no competition. In fact there is real, often intense competition, in the Japanese market. The dual facts of real government direction of economic outcomes and real competition can be reconciled if we see the system as one of controlled, or limited competition. That is, the intensity of competition between firms in key industrial sectors is directed and limited both by state actions and by the formal and informal collaborative efforts of industrial and financial enterprises.

Controlled Competition. In the Japanese system of controlled competition, there is every evidence of intense competition between firms, but that competition seems to be directed and limited both by state actions and by collaborative efforts of the firms and banks themselves.[21] The state bureaucrats do not dictate to an administered

market, but they do consciously contribute to the development of particular sectors, and they help in a detailed way to establish conditions of investment and risk that promote their long-term development and international competitiveness. An agency such as MITI (Ministry of International Trade and Industry) is not so much a strict stage director as a player with its own purposes and its own means of interfering in the market to reach them. Japanese government industrial strategy assumes that the market pressures of competition can serve as an instrument of policy. The pressures of the market are not something to be overridden by government, but rather something to ride.[22] It is not simply that government policy makes use of competitive forces that arise naturally in the market, but rather that state action often induces the very competition it directs.[23] It induces competition by creating the market for products and the conditions for high returns. A seemingly assured profit attracts the entry of many competitors. While the competition is real, the mechanisms for government and the private sector to avoid "disruptive" or "evasive" competition are there also. Vertical integration within groups of companies who have agreed on specialization within a set of competing firms, as well as the often cited run of capacity expansion and cut-back arrangements, are all signs of limits on competition.[24] The fact that these arrangements to manage the market often break down is no evidence that they do not operate or do not matter. In semiconductors today, as in steel a generation ago, these collaborative arrangements appear central to Japanese international success.

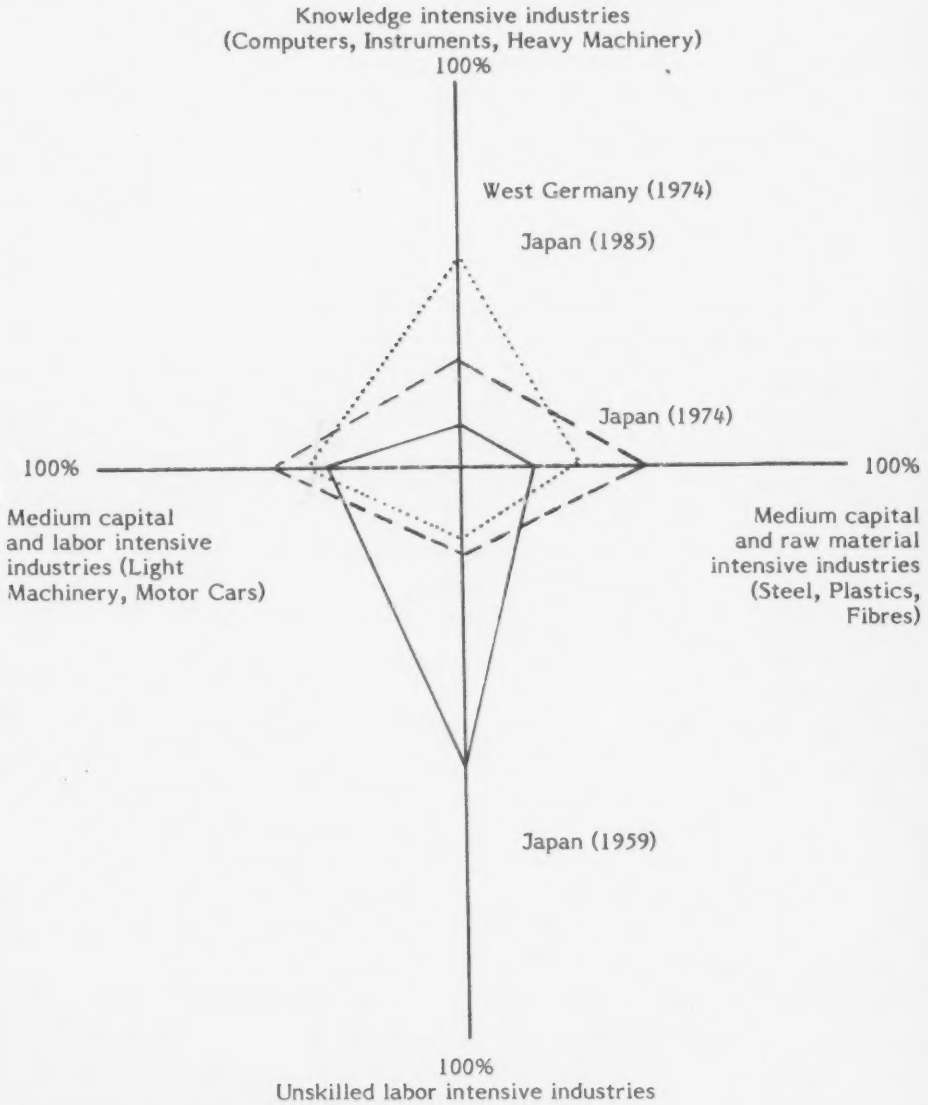
The purpose of this system of controlled competition has been economic expansion. T.J. Pempel puts it directly: "The most central concern of the Japanese state, both prewar and postwar, has been economic development."[25] "It has been a developmental state."[26] From the beginning of the postwar era, the Japanese bureaucracy had a strong commitment to moving labor out of low-productivity sectors into high-wage industries, as well as to facilitating the move out of agriculture. The industrial structure that was built in the late 1950s and the 1960s was the result, at least in part, of deliberate restructuring. The share of labor-intensive light industry declined while capital-intensive heavy industries with higher wage structures grew.[27] The shift was promoted by government measures that channeled resources into those industries for which there was a

growing domestic demand and potential economies of scale. The targets were a greater production of machinery, metals, chemicals, and ships. The diamond in Chart 1 shows the movement in Japan's shifting export mix. Hout and Magaziner explain the graph: "The shape of the diamond represents Japan's export mix in successive periods. In 1959, Japan's exports were mainly unskilled labor-intensive and its diamonds skewed toward the bottom. Throughout the 1960s, Japan's exports became more capital-intensive—steel, motorcycles, ships, etc. By the middle 1970s more complex products in the middle to upper areas of the diamond such as motor cars and color televisions became significant exports. This process is continuing as Japan's mix shifts toward high technology machinery and electronics industries.

The constant theme of Japanese policy in these years was consciously to create comparative advantage in high-value-added industries rather than to remain focused on the labor-intensive industries that might seem appropriate to an economy with a scarcity of raw materials and capital. The decision to create a comparative advantage in capital-intensive and technology-intensive industries (iron and steel, petroleum refining, automobiles, industrial machinery, electronics, and electronic machinery are examples) was a political victory by MITI over, among others, the Bank of Japan.[28] The industries recommended for development by MITI (The Ministry of International Trade and Industry) were in the Bank's view the "most inappropriate industries for Japan then in the eyes of the state theory of comparative cost."[29] The governor of the Bank of Japan argued that policy should promote exports that conformed to this traditional view of an international division of labor. MITI reasoned differently and chose industries that (1) were likely to expand with increases in income; that (2) offered the possibilities of economies to scale from concentrated investment; which (3) would drag the rest of the economy along in their wake; and which (4) could become export industries. "The theory underlying industrial structure policy was to place undeveloped domestic industries with little competitive power under the government's active interference and to build up a large-scale production system, while limiting entry into the domestic market of foreign enterprises with already established mass production systems and restricting the competition of foreign manufacturers in the domestic market."[30] The automobile

Chart 1 THE ECONOMIC BACKGROUND

EVOLUTION OF JAPANESE INDUSTRIAL STRUCTURE



Source: Japan Economic Survey, Economic Agency, 1974-75.

case is the archetype of the effort to create comparative advantage in capital-intensive manufacturing sectors. Public investment laid down the infrastructure to permit a swift rise in auto usage, and the domestic market was closed to outsiders. A competitive auto components industry was established under government leadership. Competition between the assemblers did the rest.

MITI domination of industry in support of an expansion policy worked as long as expansion generated growing profit opportunities. The competitive gains from such expansion policies measured by the fall in producer costs, domestic prices, and export prices -- ran out, according to Ueno, around 1967.[31] Interestingly, in political terms Chalmers Johnson puts the end of MITI domination in 1969, when Mitsubishi resisted MITI orders to restrict expansion in automobiles .[32] Quite evidently, the policies of direct administration gave way to less direct forms of intervention, as a period of reconstruction and the building of heavy basic industry gave way to an era of Japanese competitive advantage in manufactured goods. MITI's intervention and promotion efforts have not ended. Its attention has shifted to the new growth sectors, such as the electronics industries, and to the management of industrial transition situations. Equally important, the government now influences capital allocation indirectly through the banking system rather than through direct controls.[33]

The semi-insulated state bureaucracy, has continuously formed its own view of the future of Japanese industry, and of the proper structure of specific industries, and then pursued that vision. It became a market player, using its capacities to advocate and to promote industrial development. The limits on its capacities should not deceive us about the extent of its influence, nor should the significance of the Japanese pursuit of actively created comparative advantage be underestimated. MITI policy involved a rejection of the limits of neoclassical equilibrium economics and a recognition of how government manipulation of the conditions of business competition generate national advantage.[34]

The Japanese state has exerted directing influence on the economy in two principal ways. First, it was a gatekeeper, controlling the links between the domestic and the international economies. Second, it was the Front Office, prodding, promoting, manipulating, guiding and financing domestic firms to achieve rapid expansion and development. Considering the first set, T. J. Pempel

characterized the Japanese state as "official doorman determining what, and under what conditions, capital, technology and manufactured products enter and leave Japan."[35] The discretion to decide what to let in (and at the extreme, out) of Japan, permits the doorman to break up the packages of technology, capital, and control that multinational corporations represent. Simply put, MITI carefully controlled the terms of foreign penetration—especially via direct investment—into the Japanese economy. Selective controls over inward foreign investment were operated by the Ministry of Finance. Foreign loans were encouraged but equity investment was not, and foreign efforts to control Japanese firms were actively and successfully discouraged. Technology imports were controlled by MITI, which worked wherever it could, to force foreigners to sell raw technology in the form of patents, licenses, and expertise. Foreign firms were in general obliged to be content with royalty payments for the use of their technology, rather than with product sales in Japan. In sum, access to the Japanese market was on terms dictated by the government. Neither money nor technology could in itself allow an outsider to buy or bull its way into a permanent position in the Japanese market. This closed market gave Japanese firms a stable base of demand on which to build networks of competitive production and distribution.

Considering the second set of promotional policies, an intense but controlled domestic competition substituted for the pressures of the international market to force development in that closed market. For targeted sectors, research and development funds and production financing was assured by the state. Crucially, since these funds, like the other levers of administrative guidance, did not have to be provided evenhandedly, discriminations based on administrative judgment could be made, and the money could be used to bribe or push firms along routes government favored. Similarly, Japanese capital was not made available to international borrowers or for massive off-shorings of production by Japanese firms in sectors thought by MITI to be important to the nation's future economic strength. Domestic competition was actively encouraged by the government with extensive support for expanding firms. Seen from the vantage of the firm, government policy helped provide cash for investment, tax breaks to assure cash flow that maintained liquidity,

research and development support for technology, and aid to promote exports. These public policies changed the options of companies. Without the protected markets, the initial investment could not in many cases have been justified by private companies. Without external debt finance, the funds to make the investments would not have been available to the firms. The speed of expansion in sectors such as automobiles or steel involved staggering investment sums. In 1960 Japan produced only 160,000 cars. By 1970 they were producing 3.1 million cars, and by 1980, more than 8 million cars a year. Such rapid expansion cannot possibly be supported from internal profits; it must be financed by borrowing. The industrial boom was of necessity debt financed. Yet, without special tax arrangements and a policy of diffusing lending risk, the debt would have been unmanageable for both companies and banks. Rapid expansion built on credit involves serious cash flow problems for companies. Debt involves a high fixed cost of capital, which can leave the financial condition of companies very fragile. The Japanese tax system responded by allowing very rapid depreciation schedules. For favored industries with strong export performance, the depreciation rates could exceed 50 percent. Rapid depreciation schedules thus greatly eased the companies' cash flow problems generated by debts, thus improving their competitive position. These government policies encouraged Japanese companies to view their investments as part of an integrated business rather than as a series of specific choices with discrete payoffs. This bias toward long-term payback also encouraged superior production economies. Real competition in large-scale and stable internal markets creates massive advantages in international competition. Great strength in volume production of commodity components would seem to depend substantially on this strong pattern of sequenced external protection and internal specialization. Indeed, across a whole range of sectors there appears to be a common pattern in Japanese business strategies. An initial production volume is built on the domestic market and then steadily expanded through selective exploitation of market niches abroad. Those niches form the opening edge for export drives. Steadily increasing production volumes support the production economies which often make the Japanese the low-cost producers in the market. Indeed, in a wide range of sectors the Japanese use less labor than producers in other countries, demonstrating a remarkable

capacity to manage complex mass production processes. Government policies interact with corporate strategy and become more than a series of discrete subsidies; they come to affect the very character of company strategies. The public and private objectives have converged, because as Sato contends, industrial policy has been seen in business circles as a means of achieving higher profits.[36]

Within a protected market the easy availability of capital and technology was bound to attract entrants. Indeed, the likelihood was that late Japanese entrants in an industry could be closed out of the market, both by MITI policy and by the established positions of other firms. The threat that delay could mean exclusion produced a veritable stampede to enter the new sectors.[37] In an expanding market the competition between firms was for market share, and the intensity of competition was reflected by low profit rates among the larger firms.[38] MITI viewed the stampede for entry, which it had encouraged, and the resulting battle for market share, which limited profit, as excessive competition that had to be controlled. Competition had to be controlled, in its view, both to preserve the viability of the initial entrants and to assure adequate market demand to justify efficiently scaled plants for existing producers.

Thus, as intense as the domestic competition became, it was still controlled in many ways. One mechanism to limit competition was jointly agreed-upon expansion plans intended to avoid excess capacity and to assure the introduction of plants of sufficient size to capture scale economies.[39] This jointly planned expansion was very evident in steel, and similar policies are being used in the semiconductor industry at present.[40] There was also a general awareness among competitors that when excess capacities emerged, either from an overly optimistic judgment about market expansion in Japan or from a downturn in demand, the resulting "oversupply" would be managed. Firms would not be driven out of business. Indeed, one American businessman described the system as one in which the intense fight is over the expanding share of the market and in which shares of existing markets are tolerated.

A second mechanism was used to diffuse the risk involved in the debt financing of rapid expansion. The corporate debt was parceled out among many banks, which limited the risk to each and created a stake for all financial

institutions in the survival of heavily levered firms.[41] As in many operations in France, the financial community as a whole thus became committed to projects of national priority. American banks have lent to Japanese clients with debt levels they would not tolerate in American clients; they have perceived Japanese debt as being secured by government guarantees. The result is that the risks to the banks of rapid expansion are in essence managed and controlled, which ironically intensifies the temptation for competitors to enter the market in the first place.[42] Indeed, the mechanisms of debt financing have led to steadily increasing debt levels, making firms and banks vulnerable to abrupt market changes that would endanger any large firm. A serious collapse of a highly levered firm could threaten the banks, not just the company in trouble or its suppliers. Since a bank collapse could have serious effects throughout an economy, the company's troubles become a matter of public policy. Despite seemingly very risky corporate financial structures, the system remains stable because government concern with the well-being of firms in favored sectors has been taken as an implicit guarantee of bank loans made to them.[43] The system of debt finance is dependent on government policy as the guarantor of last resort.

The structure of business, as well as the system of state administration and policy, supports this arrangement of controlled competition. Japanese developmental policy rested on a business community that before the war developed giant hierarchical firms, inter-company group linkages, and an international orientation. The business community was not only the vehicle but the political support for the efforts of postwar development.[44] Equally important, the structure of business provided the basis of collaboration between firms. This was not so much because Japan is an economy of giant firms, although levels of concentration in the economy as a whole and of sellers in specific markets are as high as in the United States.[45] Rather, a number of mechanisms drew the large firms together in common institutions. The trading companies, an early link between the insulated domestic economy and its external sources of supply, represent one such mechanism.[46] The Zaibatsu groupings of companies were dissolved in the American occupation, but groupings around large banks (keiretsu) have been established that now tie firms together. There are several forms of keiretsu, ranging from groups

12-793 O - 83 - 4

with close inter-company ties to loose, basically financial arrangements.[47] While there is a debate on the precise form or degree of operating cohesion in these groups, the fact is that a majority of company stock in Japan is held by other companies or banks.[48] This provides still another set of inter-company ties. The world of small companies is not an anarchy either, because many of the small firms are linked as suppliers to larger companies. Small firms are not inevitably relegated to subordinate status; some independent small firms have grown to compete directly with the giants. But the well-known and much publicized examples, Sony and Honda, are rather exceptional. Lastly, while cartels are nominally illegal, an enormous number are in fact exempt from the general prohibition. There were in 1973 nearly one thousand authorized cartels. The bulk were small-business and export cartels (787), but there were a dozen depression and rationalization cartels as well.[49] These several forms of inter-company links provide the organizational infrastructure for controlled competition.

The electronics case shows these features of the Japanese developmental system very clearly. It demonstrates how Japanese industrial structure, government policies, and firm capacities intertwine to promote international competitiveness in a sector which the government considers to be crucial to the future economic development of Japan. The advanced electronics sector in fact consists of a series of subindustries including telecommunications, computers, semiconductors, and machine tools. While the details of the several stories are distinct, the common element of state promoted and organized development runs through them. Tom Hout and Ira Magaziner summarize it well:

> In the information electronics sector, which includes data processing, telecommunications, and other applications of semiconductor technology, competition among the major international companies and economies is intensive, and the Japanese government has made an enormous commitment to advancing the Japanese position. A complex pattern of government-sponsored cooperation in both research and development and equipment leasing has for at least a decade accompanied the intense competition among Japanese companies in designing, manufacturing, and marketing their own systems. Government has sought the advantages of both large, central research efforts

> at a national level and unrestrained competition for market share of a large and growing domestic market among the companies. While the government and the industry often disagree and the results of some programs have been disappointing it is clear that Japan's global position has advanced materially and that the government financing and coordination have been crucial to this process.[50]

Japan's computer industry went through six stages, each one of which began with a government policy and the creation of laws and institutions to implement the policy. Throughout, the government limited the growth of foreign firms in the Japanese market and fostered the development of domestic technology. The constraints on outsiders were effective. IBM had a strong technological lead over its Japanese rivals until the mid 1970s and its product line, service record, and vast scale economies gave it a dominant position in the world market. Yet from the early 1960s its market share in Japan dropped. Although IBM had a wholly owned Japanese subsidiary, the government declared its products as foreign and treated them as if they were imports. Carefully spun red tape, buy Japanese policies, and formal and informal restrictions proved effective. In the early 1970s the Japanese market was slowly opened, at least formally, though careful mechanisms were put in place to assure that the healthy development of the domestic industry would not be disrupted. In essence informal mechanisms could still be used to assure closure; interestingly, domestic computer producers have 90% of the public market in Japan. As the door to the domestic market inched open the government restricted takeovers by foreign firms and made the formation of wholly owned subsidiaries difficult. Access to the Japanese market seemed, each year, to be getting nearer, but somehow remained just beyond the grasp of the strongest foreign firms.

While limiting foreign access to the domestic market, the government both promoted domestic demand and financed technological development. By establishing a government-financed leasing company, which often provided below-market interest rates, Japanese companies could match or better IBM's leasing terms. Indeed the company, the Japan Electronic Computer Corporation (JECC) also bought back obsolete machines--creating a market for new models--and then sold the older machines to small businesses--which diffused the technology. A variety of

special tax arrangements served the same purpose.

The government has supplied one quarter of all funds for computer-related research and development in Japan. Importantly the government has initiated major projects required to make the large technological jumps in the industry. The money served not only as an indication of government priorities, which made it easier to borrow funds for continued expansion, but absorbed part of the financial and executive risk in pursuing these sectors. Certainly since the scale of the total Japanese national effort was less than that of the individual major American companies, direct government support is not surprising.

The money was used also, as in other sectors, to rationalize the industry's research effort and through specialization in research to achieve specialization in production.

> A system emerged in which there is cooperation in the funding of new technology projects, rationalization, and concurrent specialization in peripherals, but continued fierce competition in existing products and in the production and marketing of new products. There have been a series of cooperative R and D programs since the early 1960s, the most recent of which is intended to forge a technological lead for the Japanese.[51]

In semiconductors we once again find the pattern of external protection and domestic promotion. Here market power as much as government policy serves to close the market to foreigners. Six major Japanese producers dominate the market. They are vertically integrated firms which manufacture electronics systems products, serving end markets primarily in consumer electronics, computers, and communications. The six accounted for 79% of all semiconductor sales. Yet together none consumed more than 50% of its production internally, and indeed among the ten largest producers, the average is 21%. Clearly each company specializes in certain products, selling those to others and in turn buying other components from its differently specialized competitors. If the terms of specialization can be agreed upon and maintained in a stable way by intense but short-lived competition in new products, then volume markets for maturing products can quickly be created. Companies which are direct competitors in final systems may not exchange devices readily, but partners for these interchanges can be found. Importantly, major semiconductor firms were themselves parts of integrated

electronics companies, which in turn were usually part of industrial-banking groups known as keiretsu. Internal specialization and external protection go together.[52]

Semiconductors and computers are the vital elements of advanced telephone and data transmission systems.[53] Consequently Nippon Telephone and Telegraph, a public corporation which maintains the domestic telecommunications network, is also an instrument of industrial promotion. The differences between NTT and ATT are critical here. NTT provides the system and conducts central research. However, it buys its equipment from outside suppliers. Before deregulation, Bell and its regional companies bought from their inhouse producer, Western Electric. Western Electric, however, was forbidden from selling in open markets. After deregulation, the several markets will be opened to competition, including foreign companies. NTT by contrast serves as a mass market through which domestic companies competing in international markets can be nurtured but from which foreigners are excluded. NTT in essence is used not simply as a utility, but as an instrument of industrial promotion.

The same story of extensive promotion can be found in other segments of the electronics industries. In machine tools for example, government simply forbade the entry of foreign machine tools until the early 1960s. Massive government research subsidy programs, often from quite odd revenue sources, contribute to the industry's research efforts. Richard Copaken for example claims that taxes on bicycle racing have provided subsidies in the hundreds of millions of dollars yearly to the machine tool industry research efforts.[54] In machine tools as in semiconductors and computers there is explicit policy to force product specialization to assure volume production. In sum, the Japanese strategy of creating advantage is the dominant theme of government policy in this industry.

The French also attempted a similar effort to promote an electronics industry, but they have not succeeded.[55] A conservative coalition governed for nearly 25 years from 1958 to 1981. It included elite members of the centralized state bureaucracy and aggressively promoted the shift out of agriculture into industry and out of low-wage into high-wage industrial sectors. Policy for industrial development is formulated, even after nationalization, inside a triangle of government bureaucracies, major companies, and banks. This centralized bureaucracy has been somewhat insulated

from detailed parliamentary pressure and has been manned by a mandarin elite. To foster industrial expansion, government tried to mediate between the domestic economy and the international marketplace but successvie French governments were constrained in their international tactics by international agreements such as the EEC, a smaller domestic market, and domestically oriented companies. As in Japan, state bureaucrats could manipulate with great discretion credit, tax, and trade policies in pursuit of their goals.

Competition in Aircraft. Clearly not all developmental strategies work, even when the institutional apparatus for conducting such a policy is present. The Japanese and the French adopted different strategies. The Japanese bureaucrats adopted "market-conforming" policies intended to help companies establish self-sustaining international positions in growth industries. In contrast, the French often sought to override the market by sheltering chosen companies from competition or by promoting favorite projects that did not fit into any corporate strategic or commercial plan. Arguably the French were more constrained politically by the demands of their uncompetitive sectors and were simply less able to force them onto paths of competitive righteousness. Equally important, the French market is half the size of the Japanese market and is part of the Common Market. Consequently the French were not able to assemble the Japanese package of external protection and intense competition. In sectors such as electronics, where rapid adjustment to shifting markets and evolving technology is critical, the French have not done well. However, in sectors where substantial amounts of capital and state-controlled or influenced markets matter, the French have been much more successful. This relative strength is evident in French exports which are dominated by capital and consumer goods that are not especially price and market sensitive. The French do not pose the same broad competitive challenge as the Japanese, but in specific sectors they do. In aircraft the French-led European consortium has achieved real success. Airbus Industries is a company constructed as a joint subsidiary of the major aircraft manufacturers of each of the major European countries, France, Germany, the U.K., and a later and to a smaller degree of Spain. Though the consortium is constructed among companies, the

commitments to each of the national members is made by its government, and about 70% of the consortium is government owned. The program is considered the one truly successful joint European program translating technology development into commercial venture.

When Airbus was launched in the early 1970s, American aircraft producers completely dominated the commercial market, producing 90% of all planes.[56] The Europeans saw the American preeminence as artificially created, a commercial spin-off of military programs. Certainly jet bomber programs were the research and development base from which the first successful commercial jets were derived. Even the Boeing 747 program had its origins in the airforce competition for a jet transport, a competition finally won by the Lockheed C5A. American producers by contrast viewed their success as the natural result of their competitive acumen in what they term "sporty game." Each new aircraft requires investments of hundreds of millions and now even billions of dollars, often meaning that a company's position in commercial aircraft is staked on each gamble. Launching a new aircraft design is a true risk, even after enough airlines have placed orders to justify the risk. Those orders can be cancelled; the penalties for cancellation hardly compensate the risk. Moreover, an initial launch of a new plane hardly guarantees profitability. The problem is to achieve volume sales, both to bring down production costs through scale, but also to achieve a return in a short enough time to justify the original investment. In the view of American producers, unfortunate crashes of early jet aircraft and a failure to adapt aircraft to continually shifting airline demands drove the Europeans out of the game. Moreover, they emphasize European aircraft production costs have always been higher than American. Boeing in particular would emphasize that its ability to adjust production levels, through determined layoffs, has permitted it to remain profitable through fluctuations in market demand. The American commercial aircraft companies see the world through an optic of investment returns achieved by a private company in a competitive market.[57]

Airbus has a strategic vision of how to establish a permanent presence in competitive aircraft markets that sharply distinguishes it from all earlier European aircraft programs. The strategy has three components, each one critically dependent on government initiative: The first is

to create a family of airplanes, each technologically competitive with its American equivalents. Two members of that family have been built, the A300 and the A310. The third member is the A320, which will be a 15-seat plane. The development costs in the effort have been enormous. This has meant the commitment of substantial government funds. These funds are given either as investment or as reimbursible advances. The amounts are substantial: Boeing estimates their volume to date to exceed $5 billion in 1982 dollars.[58]

Thus in form Airbus looks like an entirely private venture with paid-in capital and loans with which to operate. The question is, of course, what returns are expected from "investments" and what the terms and payment schedules of "advances" are. To the extent that lower than market rates of return or slower than commercial repayments are acceptable to member governments, Airbus Industries operates under looser financial constraints than its American competitors.

American firms argue that the limited number of sales of the first plane the A300, and the slow pace of those sales, means that Airbus is in fact being substantially subsidized. The Europeans of course would note that the Airbus A300 succeeded in the market precisely because Americn producers systematically refused to build a plane with its characteristics, a design originally requested by American Airlines. Indeed, had either Lockheed or Douglas chosen the Airbus design instead of competing against each other with the L1011 and the DC10, both companies would be stronger and there would have been no market niche into which the Europeans could have moved. Privately, European sources acknowledge that the plane is subsidized, and that even if Airbus A300 sells another 150 copies the program as a whole will still lose money by even generous accounting standards. Losses, however, are somewhat beside the point. The European objective is to establish a permanent position in world commercial aircraft markets, and along with that to sustain the development of the technologies embodied in advanced aircraft. Evidently, domestic production limits imports and produces jobs at the same time. Direct commercial subsidies are justified as a means to reenter a world market from which American subsidies, albeit in the form of defense expenditures, excluded them. The details of the debate don't matter here, but it juxtaposes a logic of state-centered development strategy against a logic of

commercial competition.

The second element of the Airbus strategy is to create a European market as a launch point for new aircraft. The continental scale of the American domestic market presently provides a home in which American aircraft producers can define and launch new products. Products designed for and launched in the American market can then compete around the world. Airbus wishes to create such a secure home base as well, ignoring that the secure base has in fact been fiercely competitive. Airbus wants governments that sponsor it to pressure their airlines to buy the planes. National cosponsorship means coproduction and a stake in the sale of the planes. There is nothing automatic about this; that is, national airlines may be able to exercise independent commercial judgments independent from government industrial pressure, but the strategy has had success. European planes would then be luanched by sales to tied European airlines. In the absence of an "American" recognition of this European preserve they will continue to try to sell into the American "preserve." The French vision, at least, is clear. The world is divided into three markets: an American launch market, a European launch market, and the rest of the world where the products then compete.

The third element of the strategy is to use state influence in sales to this "third market." Of course, this "third market" includes the Japanese, whom the Europeans would dearly love to bring into their camp. We shall return to the issue of state trading in a later section.

In sum, the American aircraft firms are organized quite differently from Airbus, and operate under constraints that are different enough to affect the terms of competition. Consequently the different approaches to industry and markets become political issues. The issue is how to reconcile these conflicting approaches. At one extreme, the Americans would simply like the Europeans to stop the strategy of state development of commercial aircraft, but this is not going to happen. At the other, the Europeans would like the Americans to accept the state strategy without otherwise tampering with the rules of international trade, which is not likely either. The terms of an accommodation between the American producers and their European competitors are not clear. The Americans fear that continued state subsidy will endanger them, put them at an unfair competitive handicap. The Europeans see no reason to accept as given American domination of the

12-793 0 - 83 - 5

aircraft markets. Since in the open American market leadership in both engine and airframe sales has been volatile, even when one firm has appeared to have a commanding position, a compromise that sets limits on the European ambitions in exchange for American acceptance of the Airbus would contain serious risks for both sides, even if it could be defined and negotiated.

The Newly Industrializing Countries. Both France and Japan in the 1970s were able to build their challenge to American advantage on a solid base of industrial experience and technology. Consequently our discussion could focus on state policy for specific sectors, electronics and aircraft. In a range of other countries from Brazil to Taiwan, state officials have sought to use the power of government to create the industrial base itself. The success of Japan in developing competitive advantage in a series of stages of industrial production forced us earlier in this study to reconsider the utility of static versions of international trade theory in understanding competition among advanced industrial countries. In the same way, the Newly Industrializing Countries (NICs) force us to reconsider the debate over trade and development.[59]

Liberal economists looking at trade between the advanced countries and the developing nations have emphasized that direct foreign investment both transfers technology and raises the effective rate of investment in the developing country. They argue that open international trade, and the specialization it implies, benefits the weak countries as well as the strong. Importantly the state in their view cannot profoundly alter the consequences of market structure and market forces; it can only establish proper domestic incentives that allow private sectors to maximize their gain and hence maximize public wealth. The radical challenge to this view, developed from a Marxist tradition, has been labeled "dependency" theory, and has profoundly influenced policy debates in the Third World, particularly in Latin America. From the dependency vantage, the economic world is hierarchically ordered with the development of the center coming at the expense of the periphery. The structure, the place of different countries in the hierarchy, is self-sustaining. Thus, foreign investment distorts autonomous development, permitting the advanced countries not only to drain wealth from the dependent nations but effectively to control their economic and

political development.

In the view in this essay, the effect of international trade on a country attempting development depends on the ability of the government to determine the terms on which foreign capital enters the country. We argued that the Japanese government was able to break up the MNC's package of capital, technology, and management control. The ability of a particular government to act as "gatekeeper" to the outside world and "promoter" of development within depends on its own internal structure and the resources available in the internal economy. The government of a country that has a large domestic market which attracts foreign investors and skilled domestic technicians will achieve a better bargain that one that has neither as a bargaining chip. Stephan Haggard argues that what is common to the NICs—as distinct from the other developing countries—has been the ability of their governments to act as a developmental state, that is, to consciously create advantage in specific sectors in order to alter the structure of the domestic economy and its place in the international hierarchy. The NICs, he contends, must be seen as mercantile states. As such they represent part of the mercantilist challenge we consider here.

The NICs affect the advanced industrial countries in three distinct ways: First, they are a new source of exports. In the decade between 1960 and 1970, their exports to advanced countries grew tenfold, reaching a total of $44 billion. Those volumes continue to grow. In global terms the imports are not dramatic, representing between 1 and 2 percent of total manufactures.[60] Moreover, the aggregate costs of such imports are usually paid for by increased exports of the advanced countries in the burgeoning markets in the NICs. Imported textiles are made with exported textile machinery. The overall importance of trade with the NICs is small in comparison with trade inside the OECD. Until now, exports of manufactures from the less developed countries has been focused in a few sectors, so the impact on employment in the advanced countries tends to be concentrated in particular regions. To date the greatest impact has been felt in textiles, clothing, toys, electronics, and electrical machinery. The new producers will enter an increasing number of sectors, with steel already joining the list. Second, as the NICs and other developing countries attempt substitude domestic production for imports from the advanced countries, they shrink the market available to

the advanced country producers. This is quite evident in steel, where indigenous production is slowly eliminating export markets for American, European, and Japanese producers. Thirdly, the NICs will themselves become exporters, often to other LDCs, of plant and equipment as they master the techniques of process and product innovation. How quickly this occurs and on what scale is hard to judge: Brazil and Korea, for example, are making important efforts in these directions and are now suffering from the collapse of the international market for producer goods.

Fourth, the NICs do represent important markets for the advanced countries. They must buy capital goods, and advanced equipment, services, and increasingly more sophisticated consumer goods. They will not be able to produce all consumer goods internally, and demand will rise as income does. The balance of these effects is hard to judge, but clearly the pressure on the advanced countries to adjust their production will be great. Zysman has summarized the problem:[61]

> The advanced countries are experiencing more than simply short-term pressure on a set of vital industrial sectors. In many ways the character of the trade problem itself is new. The newly industrializing countries represent new competitors in traditional industries. They are forcing painful adjustments on their richer trade partners. More generally they will accelerate the process by which new products and production processes are standardized; that is, they will speed up the cycle by which advantage based on an innovation gives way to advantage based on labor costs. The sale of turnkey plants to developing countries captures this process vividly. The advanced countries sell a custom product, in this case an entire factory ready to start producing. They most often are paid with the standardized products made in those same plants. Buy-back financing arrangements for a turnkey factor create a direct link for the advanced nations between export of custom production and imports of standard products.
>
> At the same time in many sectors in which the advanced countries compete between themselves there is no space in the market for a multitude of competitive producers. Some countries will end up without an aircraft, computer, or even auto industry.

Others, such as France or Japan, will try to enter them all. The pattern of comparative advantage that emerges will be shaped by government policies—the differing political demands for government to resist demands for protection or subsidy and the different technical capacities to promote advantage will prove to be an element in the economic competition between nations.

Managing Surplus Capacity: The Second Problem

The second set of trade problems comes under the label of the management of "surplus" capacity. The phrase implies negotiations among companies and governments to reduce supply to meet existing demand. Certainly the notion is very distant from conceptions of "free trade"; it calls for an active governmental participation in industry affairs. "Surplus capacity" has a multitude of sources. A sharp drop in demand which leaves existing producers to battle over a diminished market is the most obvious. When the U.S. steel industry is operating at 44% capacity and the European industry at 53% capacity, every surge in trade has critical implications for the profitability of each company and for employment in each nation. Subsidy, protection, and devaluations all appear as means to export unemployment and maintain profits. Such difficulties are not new, and the analogy to the 1930s needs to be drawn. This, though, is the beginning, not the end of our story.

The entry of new producers, often from developing countries, into international markets has certainly contributed as much as recession to the present problems of excess production. The series of bilateral deals to limit exports from one specific country to another have come to be called orderly marketing arrangements (OMAs). These "voluntary" export restraints ostensibly stay within the rules of GATT, but in spirit step beyond them. They have cropped up as developing countries penetrate advanced country markets and as firms in one advanced country enter product sectors dominated by established firms in another advanced nation. The production costs of the new producers are below those of established companies. In some cases, such as some segments of shoe and textile industries, lower labor costs are the issue. In others, such as autos and steel, basic innovations in the process of production are at the root of diverging production costs. Thus, there are such bilateral

deals in shoes with Taiwan and Hong Kong and in autos with Japan.[62] At first these arrangements were viewed as exceptional bargains that simply detracted from the broader move toward freer trade. Or, in the case of the American legislation implementing the Kennedy Round of trade neogtiations, such restrictions were a price to be paid to the textile industry to obtain its acquiescence to the broader trade legislation. Later in the textile sector, an entire set of rules was devised that provided a common international framework within which these specific bilateral arrangements were worked out. The Multi-fibre Agreement (MFA) removed textiles from the general liberal trade regime and established a multi-lateral system to regulate protection.

The protectionist exceptions to the free trade ideal have been systematized in textiles. The public codification is unusual, not the restrictions. In steel and petrochemicals there are a variety of restrictive cartels which provide a setting for negotiation among companies and governments. Together the sectors in which restrictive international arrangements are commonplace constitute a good chunk of internationally traded industrial production.

The management of surplus capacity creates several very difficult problems. Formally, the Europeans and Japanese tend to manage excess capacity at home through cartels or cartel-like arrangements. The best-known current example is the Davignon steel plan, simply a government-influenced or structured cartel. Consequently, the Europeans and Japanese are prepared to negotiate market sharing arrangements internationally. Such arrangements are legally impossible in most cases in the United States. In part as a result, American policy responds to international excess capacity through external protection.

Financial subsidy is another means by which the Europeans protect their industries. For example, multi-billion dollar subsidies in France went into saving a bankrupt steel industry.[63] American policy, by contrast, has provided tariff protection which has intended higher prices and high corporate profits as the means to finance adjustment.[64] Indeed, the steel conflicts between the U.S. and Europe in June 1982 hinged technically on how to calculate the value of government subsidy. Behind the debate on technique, though, lie fundamentally different notions of the place and role of government in the economy. These differences in

domestic approach make international negotiations about "surplus capacity" exceptionally difficult.

A related problem is the management of industrial transition, a shift in resources from one sector to another, forced by the need for firms to exit from industries plagued by excess capacity or by shifts in competitive advantage. American policy tends to leave the process of industrial transition to the financial markets, mergers, and the bankruptcy court; the executive assumes a hands-off attitude toward the outcomes of such proceedings. The Chrysler and Lockheed cases are certainly exceptions, and the extensive debate over specialized legislations required in each case simply underlines their exceptional character.

Other governments tend to become involved in these adjustments of the domestic economy. The German government for many years was a noteworthy exception, though that too is changing. In France an interministerial committee bearing the acronym of CIASI handles these matters, while in Japan MITI takes the lead role.[65] Those governments that do choose to intervene, and to the French and Japanese examples can be added a number of others, reject profoundly the notion that social and economic structure should be left to the international market to determine.

Arguments about who will bear the pain of recession blurs into negotiations about who will be situated in growth sectors to ride the boom. In fact, what is at stake in the international negotiations that result is often precisely which companies, in which countries, will be able to survive the transition to a different pattern of products, or a new system of production. In a politicized world economy, one in which some governments are attempting to structure market outcomes, a liberal economy with a passive government may find itself at a disadvantage in many situations.

The nature of the political problem posed by oversupply depends on the source of the excess capacity. We have mentioned three such sources:

1. Decline in demand
2. Diverging production costs, that result from:
    a. Competition from new industrializers rooted in lower labor costs and standard technologies
    b. Shifting productivity as part of competition between existing producers
3. Government policies that serve to:

a. Resist decline of uncompetitive industries or to facilitate change
b. Speed the expansion of successful sectors.

All these are involved in real-world trade situations. Let us consider several.

Limiting Trade in Automobiles. A voluntary restraint agreement that limited Japanese penetration of the American automobile market was established on May 2, 1981. The accord was intended to give American producers a breathing space to adjust to the new competition. The Japanese agreed to limit the number of passenger cars shipped to the United States to 1.68 million units for passenger cars only, or about 16.5% of the market. Of course, as total demand has dropped, the Japanese share of the American automobile market rose to 21.8% in 1981. The deepening recession has obscured the debate about why the Japanese were in fact able to enter the American market so easily.[66]

The first explanation of the Japanese success, and the least troubling for American industry, is that the oil crisis abruptly shifted consumers from the large cars, in which the Americans had an advantage, to the small gas-efficient cars which was the core of the Japanese production.[67] A substantial debate rages about why American firms did not make the shift to more fuel-efficient cars sooner. The industry would contend that after the 1974 oil crisis the real cost of petroleum dropped until 1978, and after the first shock American buyers shifted back toward large cars. Whether Detroit should have anticipated the second oil price crisis, or whether in fact an encrusted upper echelon of auto executives were so entrenched in their ways that they could not adjust to the market, or whether in fact Detroit had missed the signs in the late sixties and early seventies that a market for small cars was emerging doesn't change the analysis that an abrupt shift in the mix of products was required. Since a basic shift in product means in fact a fundamental redesign and retooling, time and money were needed to make the transition. There might be casualties, of course. However, once the shift was made, the argument went, business would proceed as usual.

In fact the Japanese were a receding target. A second and disturbing explanation is that the Japanese achieved fundamental innovations in the organization of auto production that give them an enduring advantage in price,

product variety, flexibility of product mix, and product quality. In this view a fundamental divergence in the capacities of auto producers is occurring. The collapse of the British automobile industry in the late 1960s was the direct result of the inability of British producers to reorganize production to meet world standards. The British heritage of small plants and confused union structures could not be reordered.[68] Much of the production that survived there did so only with substantial government subsidy. Britain fell below the competitive standard of the American and European producers. The Japanese by contrast stepped above that standard.

Analysts in 1980 estimated that on a $5,000.00 car the Japanese had a staggering cost advantage of as much as $1,500.[69] It is true that American auto workers are exceptionally well paid in comparison with manufacturing workers in other sectors, and that the average manufacturing worker in American is better paid than the average worker in Japan. Nonetheless labor costs account for only one-half of this difference in automobile costs. Difference in material costs were insignificant. Where then is the rest of the cost gap?

The Japanese, it would appear, have made basic innovations in the origanization of production. Management of parts flows, for example, have allowed the Japanese to maintain very low levels of stock. Anecdotes tell of automobile seats unloaded directly from delivery trucks onto the assembly line. One French manufacturer notes that Japanese producers held one hour of transmission part stocks while his own company was obligated to maintain one month of stocks of the same part to assure continuity of production. Inventories have to be financed, and consequently savings are realized from not having to maintain such stocks. Comparisons of auto manufacturers in Germany and Britain show that worker productivity using the same machinery is dramatically different.[70] Those studies suggest that the organization of production, management responsibilty, is the primary cause of variation in productivity. In sum, it is clear that radical variations in production cost do occur among major producers and do account for shifts in competitive positions.

Unfortunately for their American competitors, the Japanese also seem to have achieved a greater real variety in product. Chassis and engine type is the best measure of real variation in product, rather than superficial finishing

characteristics used to distinguish models. This measure suggests that the Japanese have a product variation per 100,000 cars that is over three times the American.[71] Since economies of scale in automobile production are thought to be great, the question becomes how the Japanese are able to achieve both product variety and low cost. Clearly one possibility is that variety is expensive, but that cost savings achieved elsewhere in the production process compensate. Variety thus becomes a part of quality, quality the Japanese are able to offer because production costs are low. There is a second possibility. Using programmable spot welding machines, the Japanese appear to be able to run a variety of products down the same assembly line, achieving volume across a range of products. The implication is that market segments can be attacked with truly different products, and as market demand for products within the range shifts it is easier to vary the composition of output. Although this interpretation is not confirmed directly by American auto companies, American consumer electronic producers do attribute part of the Japanese competitive strength in their industry to similar production strategies.

If indeed Japanese producers have created enduring competitive advantages and the American producers are chasing a receding target, then the time required for a successful competitive adjustment may be quite long. In this case the Orderly Marketing Arrangement intended to be a temporary interference with free markets may become an enduring instrument of internationally negotiated market shares and a means of providing an enduring subsidy to American producers at the expense of consumers. Indeed, if the experience with OMAs in other industries is any guide, the Japanese will soon fill their quota with more expensive higher margin cars, leaving lower priced lower margin cars to other producers. In other words, the OMA may once again force adjustment on our competitors, encouraging them to shift into the most profitable product lines.

The Japanese managed this innovation in production as volume in their home market expanded. The jump from 160,000 cars in 1960 to 8,000,000 in 1980 means the rapid introduction of new assembly lines. Innovations in production could be introduced in new facilities rather than having to write off or reorganize existing facilities Backwardness proved to have its advantages. Something similar happened in the case of steel.

Cartels and Protection in Steel. In current news clips the steel story is presented as a struggle between governments to protect production and jobs in a declining market. As mentioned earlier, the Europeans have attempted to arrange an ordererd cutback in the European steel industry through a Community-sponsored cartel. Within the ongoing cartel negotiations, firms and governments have pursued radically different strategies. The Germans have attempted to avoid subsidy, except where their firms were thought to be competitively penalized by government subsidies to their rivals. The French and British have poured funds into their industry. The conservative French government of Giscard d'Estaing in fact was forced effectively to nationalize the major firms when the debt burden of the companies became unmanageable. The cost of that financial restructuring was estimated at several billion dollars. The Japanese have a tradition of recession cartels to manage decline. By all evidence the arrangements in steel are extremely effective. The Economist reports, for example, that five major steel producers have maintained 70% of the Japanese steel market over the years 1971-1982.[72] The trigger price system in the United States, which in 1978 established minimum selling prices in the U.S. market for foreign companies, sought to cushion the American market from events abroad. Steel sold below that price was presumed to be dumped or to be benefiting from subsidies. Continuing threats from American steel companies, particularly from United States Steel, to initiate massive dumping suits has prodded the government to enforce stringently the trigger price system. Behind the protection—whether appropriate as a defense against foreign subsidies or not—American companies have pursued several strategies. The largest, U.S. Steel, has seen profits jump after the establishment of the trigger price system, and used that money to diversify, the purchase of Marathon Oil attracting the most attention. Bethlehem Steel, by contrast, has attempted to move into specialty steels, and the many companies operating minimills expanded profitably in their specialized niches.

Managing production cutbacks worldwide without provoking outright protection is certainly a central problem in this sector. The high fixed costs of steel is a constant temptation to all producers to sell at marginal costs in foreign markets. Yet between 1974 and 1980, production capacity rose by better than 10%, although production was

dropping. This of course meant a drop in rates of utilization. Production fell the most sharply in Japan and the EEC, where capacity had increased the most. Those governments have sought to modernize capacity to improve competitiveness. In the French and British cases, the governments have until recently resisted the option of shutting down outmoded facilities and reducing labor even while building new facilities. At the same time, the growth of steel production in newly industrializing countries has meant a loss of export markets for producers in all advanced countries. In essence, the extended recession hit in the midst of a period of basic readjustment to the industry.

The American position in this semi-negotiated international reshuffle has its origins in the choices made by American producers a generation earlier.

> When compared to the largest Japanese companies, the world's most efficient steel producers, the intgegrated U.S. producers suffer from significantly outmoded capacity, poor location and layout, mismatched products and markets, and significant technological backwardness in energy productivity, resource utilization, and finishing capability.... The great majority of Japanese steel originates in fully integrated, fully rationalzied greenfield plants of 1965 vintage or later.[73]

As in autos, backwardness was an advantage to the Japanese, who built much of their capacity in the 1960s. Japanese industry grew 1,038 percent from 1955 to 1980. By contrast the United States industry has expanded little since 1964 and has seen its share of the world market dwindle. The 1950s was the last period of American expansion. Some 50 million tons of annual capacity were added then. During that period, America was still the dominant world producer and the domestic market was an oligopoly effectively immune to foreign competition.

The largest American companies built very traditional plants in the 1950s using then standard technologies. The problem was that a relatively untried alternative was available, the basic oxygen furnace process, which was to make possible lower cost production and to threaten the industry pricing structure. At the time only the small U.S. companies took the risk of introducing the new BOF process.

The Japanese, like the small American firms trying to expand market share, took the risk. Capacity in Japan grew from 24 million to over 100 million net tons in the 1960s,

financed by long-term low interest debt, and by the end the Japanese had the most competitive industry in the world.

The American producers had expanded production in the fifties, but in the sixties they faced stable demand with a now-outmoded technology. The transition out of the old technology was therefore done in a piecemeal fashion, although substantial sums were spent. As a set the major integrated steel producers saw their competitive position erode during the long period of slow growth that preceded the current recession. Certainly the situation of the major producers is not uniform, and some such as Inland have remained competitive. Minimill producers and specialty steel producers saw their position improve in this transition. Japanese producers had engaged state aid to assist their competitive development. American producers engaged "political muscle to protect their oligopoly of the domestic market and thus to insulate themselves for a time from the need to restructure."[74]

Textiles and Adjustment. Government negotiated restriction on market access has become the norm in the textile industry, our final case.[75] Indeed, the industry has established its own set of rules and procedures for these arrangements. The multi-fibre agreements (MFA) represent a sector specific trade regime for managing trade that is built on premises of negotiated outcomes rather than the GATT premises of free trade. This system of "organized free trade" grew up as a response to the problems of industrial adjustment, changes in the products and producers that had a competitive advantage, and not as a reaction to recession.

The movement toward global protection began in the United States.

> Over the past twenty-five years, industry and labor groups in the textile and apparel industries have responded to global market changes by attempting to insulate the domestic market from international competition. Arguing that low profits, unemployment, and plant closings are due to imports, they have insisted that the government impose quotas. Their efforts have been successful. In 1955, under pressure from the United States, Japan restricted its exports of a few cotton textile and apparel products. By 1982 the United States was severely restricting imports of cotton, wool, and manmade fiber textiles and apparel

> under the global Multi-fibre Arrangement, which controlled virtually all world trade in textiles and apparel.[76]

When the original demands for protection began, imports represented only a few percent of the American market. The industry was being disrupted, rather, by a shift from natural fibers, such as wool and cotton, to artificial fibers, as well as a shift in production from the Northeast to the Southeast. Government policies, moreover, created real problems. Agricultural policies raised the price of cotton in the domestic market, putting American textile producers at a disadvantage in competition with foreign producers who had access to cotton at the lower world market prices. Aid programs to developing countries also helped establish textile industries abroad, that later became exporters to the American market. These several developments affected American firms differently, depending on their products and their geographic location. Consequently, the industry had no common interest in any domestic policy to facilitate adjustment, but all firms had an interest in insulating the domestic market from foreign competition. Because major segments of the textile-apparel industries are labor intensive, competition from firms in low-wage countries steadily intensified. Yet the protectionist coalition, it is worth noting, was built before imports from the less developed countries became a dominant factor in the market.

The protectionist system was constructed in three steps. In the first phase, 1955-61, "government policy evolved from a relatively free trade position, with only tariffs in effect, to a bilateral system of import control on cotton textile and apparel goods from Japan."[77] That bilateral agreement was extended at the end of the first phase to a multilateral agreement that controlled national restrictions on cotton textile and apparel imports. The original restrictions on cotton had led to restriction on cotton textile imports from Japan then to restrictions on textiles and apparel from a set of exporting countries.

The second phase, 1961-73, saw the extension of the restrictions on cotton goods to products made of other fibers. Foreign producers, as noted earlier, respond in very predictable ways to restrictive agreements that limit exports of particular goods from particular countries: they change the mix of products; they shift the location of production; and they change the countries to whom they

shift. Moreover, producers from countries not covered by the original agreement often start to produce for export when such restrictions are imposed on rivals. Foreign cotton textile and apparel producers shifted into woolen and manmade fiber products for export to the United States, and even cotton imports grew as new countries entered the textile export business. The result was both the broadening of the products by restrictions and European support for a general system of restrictions. Exports displaced from the American market had begun to affect the Europeans.

The Europeans took the initiative in the third phase which began in 1974. Aggarwal and Haggard summarize the development:

> Because the EEC was slow to negotiate its bilateral agreements under the Multi-fiber Arrangement, exports by less developed countries to the Europeans grew rapidly. The EEC response was to press for a major modification of the international agreement in 1977. The modifications incorporated into the Multi-fiber Arrangement allowed the EEC to conclude bilateral arrangements with LDC producers that were more protectionist (that before). The response of U.S. textile and apparel groups was to press the U.S. government for more restrictive bilateral agreements because they feared a diversion of exports back to the American market.[78]

Some unique features of the textile industry produced this organized exception to the free trade model. First, the impact of new producers on established markets was quite substantial over the 20 years, alhtough, to repeat, it wasn't important when protection was first created. Second, the fragmentation of the industry into multitudes of small producers in each country meant that either formal or informal cartel arrangements would be very hard to negotiate. Thirdly, the mass of small producers meant a geographic diffusion of political influence in the United States, but also in Western Europe. In each country, the industry was also a major employer, drawing union support behind the protectionist drive. Thus the problem was intense, arrangements among producers or informal agreements among governments were not manageable, and the political clout of the industry was substantial.

The fundamental force behind the government management of "surplus" capacity in these sectors was the effort to control the process of industrial transition.

Certainly recession aggravated the problem and made government conflicts more intense, but the roots of what the French would call "organized free trade" lies in the need to control the consequences of market changes. Even were the recession to end, the pressure for negotiated trade to balance national interests in many of these sectors will not dissipate.

The several sources of oversupply intertwine, but they call for quite different policy resolutions. First, declining demand calls for a division of the remaining markets among existing producers, each of whom faces the temptation to gain marginal revenue by operating hig-cost plants at full capacity and selling the marginal production at below average cost in someone else's market. Second, divergent production costs pose knottier issues. They make it harder to negotiate a resolution of shifting positions in the market, whether it be the entry of newcomers or a readjustment of position among existing producers. Why should the winners concede at the bargaining table what they can gain in the market?

New Wrinkles in the Export Game: The Third Problem

The national state has become a trader, directly negotiating the terms of sales and influencing the terms of supposedly private bargains. Leaving arms trade aside, national states are important commercial actors in sectors as diverse as construction, aircraft, and telephone equipment. To these cases where the government is salesman, we must add the state negotiation of buyback and barter arrangements. Such arrangements have recently been estimated to represent 30% of all international trade.[79] While this is almost certainly an exaggeration, countertrade or barter trade arrangements have grown in significance in recent years, to open a new arena for state action. Undoubtedly trade with Eastern Europe and OPEC have promoted barter. The state trading agencies in these countries invited a response. A company in Country A sells 4,000 tractors to a company in Country B. The government of Country B wishes to pay for the tractors with 10,000 tons of coal rather than with cash. The problem for the company selling the tractors is how to revalue the coal. In some cases a contract for the resale of the coal can be arranged before the sale of the tractors, but in other cases this is not possible. Certainly with turnkey plant sales to be paid for

through the transfer of the product of the plant—buyback arrangements—the monetary value of future production is unclear. Governments here can insure the company against this peculiar kind of foreign exchange risk. Alternatively, the government can help market or directly purchase the goods accepted in payment for exports. Such tied trade arrangements that substitute barter for monetary transactions are thought by most American officials to run straight in the face of the principles of free trade. Some governments are better organized than others to play the role of "trader." Certainly the same centralization and bureaucratic coordination that permits the French and Japanese states to play a developmental role in their economies at home provides them a capacity to act as a trader abroad. Those countries that are technically less suited to this role are also ideologically opposed to such trade activities and condemn them as a violation of the principles of free trade.

State trading, barter, buyback, offset and mixed trade agreements are not new, but their volume is increasing rapidly. Along with their quantitative growth, their role in the international trade system is changing. From marginal and exceptional practices in a few specialized areas (such as armaments) they are coming to occupy an ever more central role in the organization of international trade.[80]

Behind these new wrinkles—which are less a flurry of idiosyncratic innovations than the coherent consequences of growing mercantilism—lie the two basic forces examined above: (1) the rise of the development state as a primary actor in the international trade scene, and its increasingly dominant role as a for both newly industrializing and re-industrializing countries; and (2) the need to manage surplus capacity and to negotiate industrial transition. They tend to come together to diminish the role of private, market transactions as the dominant and organizing means of international trade. The dynamic is self-reinforcing. State trading leads to offsets, offsets to mixed packages. As they become accepted practices, expertise, roles, and institutions develop to expand, reinforce and perpetuate the emergent parallel system. Institutions well adapted for success in one system—such as the entrepreneurial firm—find themselves ill-adapted to the other system.

These fundamental tendencies are in turn reinforced by powerful secondary trends. The first, beginning in the mid-seventies, was the sudden availability of funds for

developing country governments in which state guidance is central to investment and trade. For some countries, mostly OPEC nations and NICs, the funds came through trade; for others, such as Brazil and Mexico, through borrowing. In both sets of cases, their expanded role in international trade has meant an expansion of the role of state trading, and a relative diminution of direct, market transactions between private buyers and sellers. Another important secondary source in the growth of the mercantilist practices has been the rapid expansion of trade with centrally planned economies.

The third reason is the rapid growth of international trade in sophisticated armaments. In many ways the arms trade is the model for the new mercantilism. Armaments is the sector where it is most difficult to distinguish between economics and politics, between the state and the private sector. Governments are clients—they buy the arms. But they are also investment bankers, financing not only production, but research, design, and development. They are also merchant bankers, finding foreign buyers, organizing the sale, financing the sale, organizing the offsets, dumping the bartered counterparts, and financing services, such as training and maintenance that make the sale—and follow-on sales—possible. The market is characterized by discrete, giant contracts rather than by marginally adjusting commodity flows.

The mixed aid packages, offsets, and barter that characterize those contracts make true prices difficult to compute, and the complex financing and costing structures and practices of the manufacturers of large-scale, sophisticated armaments, make real costs equally obscure. The contracts are most often negotiated government to government, with complex political considerations replacing simple price-quality calculations. In many ways the arms trade is the model of the new mercantilism, as well as its most important quantitative expression. It is also one of its most important creators, developing the habits, the channels, and the institutions that then spin off into other sectors.

In sum, the rules and the structures of the game of international trade are being changed by these institutional innovations, or new wrinkles. Market trade practices, practiced mostly within a small group of Western liberal economies, are being threatened. It is a bit like football, when the hard shell helmet and all that protective padding

were introduced. They first came as defensive measures to protect the more delicate parts of the more vulnerable players. But they quickly transformed the head into a battering ram. To defend themselves, everyone else was forced to adopt the new defensive/offensive innovation, and change the way they played the game. Safety did not necessarily increase; the game did not necessarily improve.

Examples of these new wrinkles in buybacks, mixed aid packages, offsets and barter abound. GE recently reported losing an important contract for the sale of CAT scanners to Austrian hospitals, when a competitor, Germany's Siemens, agreed to increase production of electrical goods (not CAT scanners) at a plant it owns and operates in Austria, thereby offsetting the purchase with additional Austrian employment.[81] McDonnell Douglas, in order to sell over $2 billion of military fighters to Canada, agreed to locate employment in Canada and to help to market a miscellany of Canadian goods. Northrop has similar complex deals all over the world, as do GE, GM, and a host of other major American companies. They are relative latecomers to this game, and recent legislation by the U.S. Congress to permit the involvement of commercial banks in Trading Companies testifies to our belated recognition of its growing importance. Barter is certainly not new. Indeed, money was first introduced to overcome its obvious inconveniences, and 1982 seems like a strange time to begin to reinvent the East India—or the West India—companies. But its spectacular rebirth is only the tip of a great iceberg of new trade conditions, forms and objectives. Why the increase in barter?

Certainly a palm oil producing country could sell its own palm oil as well as GE, Northrop, or Aerospatiale. If not, they could purchase the international trading expertise. If Mitsubishi could sell the palm oil better than the producer government or firm, the economist would then expect Mitsubishi to enter that new line of business in a massive way. So that after the usual economic considerations of barter have been run through, a new set of arguments comes to the surface. The first is the simplest: Bartering permits a vagueness in the price of the selling product. It is a way around anti-dumping rules, a way to practice market discrimination (selling cheaper in weaker market), a way to survive bad times. And once the others do it, even the strongest competitor will sooner or later knuckle down and accept half a loaf. It is, in this view, part of an

overcapacity problem. It should diminish in intensity once the world economy picks up, that is, if one's own national producers don't first find themselves excluded from markets, where reentry will be extremely costly and perhaps impossible. The second explanation is that some producers may not be able to buy marketing skills and consequently wish to transfer that problem to someone else. Indeed, it may be willing to let prices shift against it in order to transfer that selling task to its trading partners. The third source of explanation is more interesting—and more permanent. Many international transactions are simply not about exchanging one product for another, as in classical trade theory, wine for wool, oil for electronics. They are about deliberate efforts to change a nation's economic situation, to reposition its industry in the international division of labor. The Brazilian petrochemicals case, and the European Airbus case, illustrate this view particularly well. Japanese computers, a few years back, were a parallel illustration; so were French process engineering, Brazilian automotives, Japanese semiconductors, and Eastern European petrochemicals. The list can be made very long.

Petrochemicals in Brazil.[82] They sound like sad shepherds out of Homer's Odyssey: Polyvinyl, Polyurethane, Polyethylene. But most everything we wear, touch (and often eat) these days reduces down to a hydrocarbon chain, to these basic building blocks of the new alchemy of petrochemistry. Brazil's appetite for petrochemicals was enormous. Ethylene output grew by over 40% between 1970-77. The state-owned energy company, Petrobras, contracted for giant, state-of-the-art petrochemical plants to be built in Brazil by American multinationals. A small percentage of locally produced goods went into the first plant, and almost no local engineering. A second plant increased the content of local engineering, but it was still essentially a turnkey operation. A black box was delivered, on schedule, with complete instructions for its operation. For the next series of plants, the Brazilians tried a new, aggressive and risky approach, and they seemed to have won.

The purpose of the new multi-plant contract was not simply the creation of a certain volume of ethylene capacity at a certain price (though that was not neglected), but rather the creation of competitive advantage through the creation of a state-of-the-art and self-developing Brazilian

engineering capability in process petrochemical engineering. The state enterprise, Petrobras, requested bids from four international petrochemical engineering firms. The American engineering firms Lummus and Stone & Webster, did not wish to create their own competition; their bids did not provide for the kind of technology transfer the Brazilian state sought. Nor did that of the German firm, Linde. Only the French firm, Technip, took the contract, in all its terms. It may be worth studying why they chose to do so.

Technip is a relatively young engineering company. It was started in 1958 by the French government, interestingly enough, to do in refineries exactly what the Brazilians were trying to do in ethylene plant technology. At that time international petroleum firms, and American process engineering, completely dominated the then rapidly growing French market for refineries and continuous process petrochemical technology. Technip was created to acquire the know-how so that a French firm could play a major role in building refineries and process plants first in France and then abroad. It succeeded mightily. With the substantial help of the French government as a gatekeeper and a tough contract negotiator, it was able to appropriate the requisite know-how through a series of contracts, rather like those of the Brazilian case: The existence of sufficient technical diffusion permitted the French government to use its enormous power over entry into the French market and to find a weaker firm, but one possessing sufficient know-how, and force it, as the price of entry, to convey that know-how to Technip. Technip could then begin to operate as a national champion, and was given a string of major contracts, by government controlled oil companies. It quickly became the number one plant engineer in France, and developed enough experience, expertise, and a long enough track record to begin to venture abroad.

Technip is owned by a consortium of French state-owned petroleum companies, state-owned banks, and later on materials and machinery makers (PUK), also now state owned. It was created to act not as a simple firm, but as an instrument of national economic development policy; it has, over the years, continued to act that way. Profit maximization is not its overwhelming goal. It makes profits, but it does not seek to maximize them. In industries such as engineering, where the task consists of designing large and costly plants or roads, as in architecture and city planning, the profits of the consulting engineers or planners

are a very small piece of a much larger pie. The big bucks are in the provision of the hardware: the machinery, materials, and building supplies. The engineering or architectural firm is often a spearhead for one or a group of such suppliers. Thus, there is nothing particularly unusual about Technip's behavior. But it is an extreme case. It spearheads the industrial core of an entire nation. As Technip's executive vice president candidly put it:

> The structure of our capital makes us an instrument for a certain kind of policy. Take Elf, for example, with 25% of our capital. I don't think that Elf bases its financial strategy on what we do. It demands that we shall not lose money, but I don't think that it expects us to make extremely high profits . . . we must continue to work to develop the company as a technical tool which promotes the technology of France.[83]

The Brazil deal represented therefore many things for Technip and its parents, the industrial core of France: First, it was an attractive business opportunity all by itself, a chance for a second string company to break into a big, new market, and diversify its operations (at the time overwhelmingly centered back home in France and in Eastern Europe). Because it was not a dominant company, it had relatively little to lose by giving away the state-of-the-art know-how. So there were perfectly sound, normal business reasons for Technip, unlike Lummus, Stone & Webster, and Linde, to jump after the Brazil contract. But beyond that, it was an important foot in the door for French suppliers—and not just suppliers of materials and machines and software for the ethylene plants. The strong French presence in the ethylene operation, working directly and intimately with Petrobras, the strongest industrial force in Brazil, the training of corps of Brazilian engineers in the intimate knowledge of French machines and technology, of French ways of doing things, French computer programming, and even the French language, was seen as an important and valuable entry into large-scale, cooperative endeavors in a widening circle of industries in Brazil. Technip is a lead office—not a major profit center—for a big company, in this case the entire French economy. In all these ways it had advantages—and strategic considerations—that were quite different from its competing American and German firms.

Competition in Civil Aircraft Revisited: The International Dimension. The European Airbus, described

earlier, brings together almost all these new trade wrinkles in one product, in a market where the stakes are sufficiently high to make it more than just another example. The estimated market for the new generation of wide-bodied aircraft, as things now stand, overwhelmingly to be divided between Airbus and Boeing, is variously estimated as between $100 and $150 billion dollars, with the U.S. market accounting for only about 40% of the total.[84]

Airbus, as we examined earlier, was created as a consortium among European governments; the aeronautical firms involved are both private and public, though mostly public. Government direct investment funds put it in business under conditions where "private risk capital" would most likely not, and kept it in operating during a long, slow, costly, and unpromising start (from 1971 to 1977 Airbus sold only 57 planes)[85]—a disastrously costly start. Using an indirect and crude method, the Boeing Company, not a disinterested observer, estimated that Airbus has received over its ten-year existence upward of $5 billion (1982) dollars) in manufacturing subsidies.[86] The Airbus investment was just the type of thing the market would be most unlikely to sustain; under "normal" market conditions the program would have been halted years ago. It is therefore the kind of thing the developmental state should do. No official estimates of the manufacturing subsidies—or, as seen from the European end, the very long-term, high-risk investment—are available. But Airbus was clearly a very expensive effort to buy into an industry. The effort is beginning to pay off. Starting in the very late 1970s, and continuing up through the present, Airbus sales picked up smartly. By 1980 they had about one-third of world sales in wide bodies; last year they reached over 50% of new orders.[87] Through the introduction of a new A310 model this coming spring (and a proposed A320), Airbus will soon offer an entire "family" of aircraft—a necessity if one intends to be a permanent presence in the industry and challenge the Americans for world leadership. For the Europeans, especially the French, Airbus is proving to be a success in its most important dimensions. It is the most visible and successful example of European economic cooperation (even if 25% of it is U.S. made). As such, it is politically precious, and must be preserved at almost any cost. It has opened up a European prestige presence throughout the world, and it created a strong European industry in what is seen as a key advanced industry. Without

Airbus, the European aircraft industry would likely have disappeared. The European governments may even recoup parts of the $5 billion that Boeing saw as a manufacturing subsidy, and they saw somewhat differently. But the payback may still be many, many years out. They must still front the costs of the A320 program, which seems likely to cost well over one billion dollars to launch.

Airbus has also benefitted, it is alleged, from other new mercantilist wrinkles. The French state at the very highest levels seems to be out selling Airbusses, using the powerful, complex leverage that only a well-organized development state can mobilize to encourage sales. The French press regularly reports visits by top government officials, ministers, even prime ministers and presidents to foreign government officials where the sales of Airbusses were discussed, usually in the context of a broad package of economic, political, and cultural relations between the two countries. Sometimes this system is worked in reverse, because overwhelmingly, outside the U.S., buyers of new commercial aircraft are governments, or government-owned and operated airlines, which seem never to lose sight of their role within the entire set-up of their governments' political and economic strategies. The complexity, and prevalence, of this game became apparent when the Australian government announced that as a condition for their purchase of Airbusses, the French government would have to use its considerable influence within the common market to increase access for Australian sheep. The French government official (of ministerial rank) immediately engaged France to make such an effort. This is an extreme—and double-edged—example of the complex barter nature of so much of world trade. A state that can organize itself into some kind of a super trading company commands certain advantages under these new rules and procedures.[88]

There is, of course, another side to the Airbus-Boeing competition over the rules of trade, and U.S. firms, especially in aircraft production, are not simply passive, injured parties. As we noted earlier, Airbus argues that the U.S. commercial aircraft industry has steadily benefitted from substantial Pentagon subsidies: The Pentagon underwrote development costs of the GE jet engine that powers so many wide bodies all over the world (including Airbus); Pentagon orders for military aircraft that are only slight variations on civil aircraft keep the lines running and thereby subsidize the commercial market as in the case of

the K-135 military jet tanker, which is a relatively minor adaptation of the Boeing 707.[89]

Airbus's American competition has, over the past few years, as it watched one foreign sale after another slip into European hands, been crying "foul" as loudly as they can about yet another form of non-market selling practice: below market, or subsidized, financing and risk insurance. On a big-ticket item like a $50 million airplane, a few points difference on financing can be a decisive advantage. (Boeing estimates that a 2% interest advantage on the sales terms outweighs a 5% advantage on fuel economy—the big difference between the new generation of wide bodies and the older generation.)[90] Below "market" financing rates for Airbus is commonly acknowledged in the world business press.[91] Even the French business press acknowledges substantial government financing as well as subsidies in each Airbus sale.[92] When, after extremely strenuous efforts, Airbus finally broke into the U.S. market with a big sale to Eastern Airlines (its only U.S. sale thus far), Frank Borman, the former astronaut and Chairman of Eastern Airlines, told the employees of that ailing carrier in a much-cited outburst of enthusiastic candor: "If you don't kiss the French flag everytime you see it, at least salute it. The export financing on our Airbus deal subsidized this airline by more than $100 million."[93]

Until a one-year agreement on aircraft financing—"common line"--was reached in September 1981 (and extended for a few more months in September 1982), Airbus financing was available for as little as 7½% and constituted a major commercial advantage.[94]

Governments have for years supplemented purely private techniques of export finance in order to assist their companies' sales efforts abroad. Selling abroad raised specific problems, which if resolved could increase the total volume of trade. Operating on a pay-as-you-go basis, government programs often served to make the financing of foreign trade more effective and were not simply instruments of competition among nations. However, in the past twenty years or so such programs have begun to serve as competitive instruments in the international competition for capital goods sales. As national instruments of competition, export financing techniques often embody substantial government subsidies, either to all qualifying exports or to those projects favored by governments. If one nation's subsidies are met by its competitors, then a round

of international price cutting ensues. The only advantage from subsidized export comes if the programs in one nation allow greater price cuts than its competitors or make a more clever use of such subsidies. Price cutting through finance, as noted before, makes it difficult to determine exact prices and makes it harder for competitors to respond.

In the early 1970s efforts began to negotiate limits on the competitive use of such techniques.[95] Those efforts culminated in the 1978 "Arrangement on Guidelines for Officially Supported Export Credits." This Arrangement, like the Consensus reached a few years earlier, excluded military equipment, agricultural commodities, nuclear power plants, many categories of ships, and aircraft. The arrangement in aircraft, known variously as the Gentlemen's Agreement or the Commonline Agreement, has been unstable precisely because the partners to it have sharply different interests. In the financing of aircraft, as in other sectors, a number of technical matters complicate negotiations on the proper use of finance in competition. Those technical matters reflect enduring differences in the national organization of domestic financial markets as well as more temporary conditions such as domestic interest rates and specific balance of payments conditions. However, at the core the negotiations founder, when they do, on a simple matter. Some governments wish to participate more aggressively in international trade promotion than others. Joan Pearce summarized the matter well: "Those that have subsidized most have been trying either to increase their market share (France and Japan) or prevent it from declining (Britain), while those that have subsidized least have been comparatively satisfied with their market share (Germany and until recently the United States)."[96]

THE POLICY PROBLEM

The GATT system was constructed on a liberal economic foundation. It assumed that production and exchange would be conducted by private actors and that all countries stood to gain from increased trade, if only temporary dislocations could be accommodated. It intended that the rules of international trade would be built on a multi-lateral basis, as a deal among all the players, rather than as a result of a patchwork of individual bargains. Finally, it assumed that the rules would be applied even-handedly, without discrimination against or favoritism for, a

few. The state-centered economic strategies discussed above challenge the various pillars of this system. Individual governments have little reason to leave their markets open to challenges to their domestic industries promoted by foreign states. Bilateral deals, now called "orderly marketing agreements," and other explicit market share arrangements among some set of trading nations, tend to push problems toward the markets of those not privy to the bargain. If Japanese cars are kept out of the American market, not surprisingly outlets for the production will be sought in Europe.

The trade conflicts outlined here cannot be resolved simply by agreements about the procedures of trade that merely reiterate the premises and objectives of a liberal economic order—the elimination of tariffs, quotas, and non-tariff barriers on the one hand and multi-lateralism and non-discrimination on the other. Improving means for resolving conflicts, clarifying safeguard provisions, or increasing the transparency of subsidy are all necessary objectives. However, the difficulty is in advancing toward such goals in the current environment. All the trade problems discussed here will last beyond the recession, but the drop in trade and growth makes confronting the issues all the more difficult. Outcomes matter more in hard times. Indeed the mercantilist challenge sets interests in outcomes against a simple defense of the rules of the game. Joan Pearce has put it very well:

> A country such as the United States, which at least until recently has benefitted from free trade in manufactured goods, sets its sights on achieving the conditions of a free market, where there is little official intervention, and decisions are determined by market forces. France, which began to develop trade in manufactured goods after other countries, adopts the view that in international trade the free market is a chimera, and that given the plethora of subsidies and other distortions, the best that can be achieved is a balance of interests.[97]

Unfortunately American interests have begun to shift.

This mercantilist challenge to the literal economic order comes as America's dominant international position in world markets and its ability to regulate monetary and trade affairs has eroded. The consequence is that the United States government's capacity to exert international trade leadership without regard to the interests of domestic

pressure groups is limited. Stable international economic orders are thought to be maintained by a hegemon, a dominant power able to sustain the rules. Britain once played that role, and for a quarter century after World War II the United States did. America's post-war dominance allowed it to shape the international trading system, but within that structure other countries were able to pursue their own national economic purposes with considerable freedom from international restraint. The international rules tended to reflect our view of economic relations and to express our prefrences, but the benefits were not all one way. Because America's international positions did not have to be shaped by short-term economic goals, considerable room for maneuver was left to others. As American economic preeminence has eroded, so has its ability to act as hegemon and to make the substantial side payments needed to sustain all nations' commitments to the international economic rules. For example, in the trade domain the U.S. was once able to offer access to its market to promote loyalty to the system. Americans tolerated and even encouraged the formation of the EEC and the expansion of Japanese exports to America. In monetary affairs the United States was able to ignore devaluations of foreign currencies against the dollar that were made to improve the trade position of the devaluing countries. Since the value of the dollar was constant, a stable short-term solution to the international monetary quation would be worked out. More baldly, the Japanese, the Germans, and often the French could systematically undervalue their currency without fear of American countermoves. While our ability to support the international economic system has eroded, the U.S. remains by far the strongest single nation in the international economy. We are now tempted to use that power to manipulate and to twist the system's rules to accommodate our own domestic problems. The 1971 Nixon devluation marked the point at which the very rules of the system were being visibly twisted to serve American purposes. Reciprocity legislation with Japan, threatening that unless the Japanese market were opened for American high technology firms, the United States market would be closed to the Japanese, is a more recent instance.

The shifting role of the U.S. in the international economy makes the resolution of the current set of problems all the more difficult for two quite distinct reasons. First, American policy makers and business

executives often see the Europeans as neo-mercantilist, unfairly using state power to gain economic advantage in what should be a liberal economic order. Europeans and Japanese, in turn, view our management and manipulation of the system as a different kind of neo-mercantilism. We achieve the same purposes, in their view, by manipulating the international rules to gain advantage and to block political and industrial purposes of other nations.

Secondly, our trade partners note that while we reject financial subsidies to protect domestic industries or to reorganize them, we resort very quickly to protection. In a recently completed study of a set of trade impacted sectors we found that in each instance where American industry has been jolted by international competition, the primary policy response has been protection.[98] As long as the sectors facing intense foreign competition were either exceptional or marginal, American policy could live happily with a contradiction between a general commitment to free trade and concrete protectionist policies in the few trade impacted sectors. As discussed earlier, protection for textiles was the price paid to assure Congress would pass the Kennedy Round trade legislation in the 1960s and the Tokyo Round legislation in the 1970s, both of which furthered general free trade. However, as autos, steel, televisions, and even semiconductors are pressed hard by foreign competitors, the domestic strategy of protection in the last resort threatens not only the American economy, but the international fabric of open trade relations constructed in the last years.

There is a third matter: The Europeans and Japanese claim that American competitive advantage in many sectors depends directly on U.S. government policies. They see no difference between Defense Department expenditures that helped speed civilian aeronautic and electronic industry development and their own government expenditures intended to close the competitive gap with the United States. When American negotiators complain of the Japanese joint research ventures in electronics, the Japanese quickly point to the Defense Department's VHSIC (Very High Speed Integrated Circuit) program in Defense. Even the production equipment developed for this VHSIC program will not be permitted to be sold abroad. Similarly, the French contrast their support of Airbus with the Defense Department's support of the McDonnell Douglas wing research program that might put that company back

into a strong commercial position. We claim that the purpose of such Defense programs is not commercial development, or that the rules on coastal shipping which has excluded French oil pipe producers from entering the U.S. market do not originally have commercial intent. Whatever its purposes, our trade partners retort, these policies have commercial consequences and must be considered when negotiating.

If we hope to sustain the system of open trade in the next decades, this position must be addressed seriously. Our trade partners are unlikely to abandon civilian instruments of industrial promotion as long as they believe that our military programs—whether intended or not—create competitive advantage in civilian competition. As we urge Japan to rearm, we must consider how we would react to the creation of a Japanese civilian aircraft industry out of the reestablishment of a Japanese airforce and how we would respond to Japanese justification of electronics research subsidies on the grounds of national security. Development initiated for military reasons will simply have to be considered for serious civilian trade negotiations in the next decades.

AN AMERICAN RESPONSE TO THE MERCANTILIST CHALLENGE

America's twin trade policy objectives are sustaining an open trading system and maintaining American competitiveness. This poses a potential dilemma. The mercantilist strategies have worked particularly effectively in an open trade system. That openness has been maintained by American commitment to liberal policies, and by the overwhelming preeminence of American economic and political power. Unless American policy now responds to the specific statist strategies discussed above, we risk the competitive position of many sectors. Yet if our own response is mercantilist, then American policy will simply accelerate the present drift toward world protectionism. Whatever specific troubles trade may generate in particular sectors, America has an enduring economic and security interest in an open trading system. A multitude of special privileges and discriminations, hastily constructed trading blocs, and political manipulation of trade would result. With all advanced countries deeply dependent on imported oil, the struggle for competitive markets would become even more

political. The result would probably be a drop in trade not compensated by any pick-up in domestic sales—in essence a further shrinking of demand in an already depressed world. Crucially, a fragmentation of the West into rival political-economic blocs would only undermine American hopes for a stable and secure world. Moreover, aggressive state-led economic strategies are not congenial to the ideological bent of this country or particularly suited to the capacities of the federal government. The real task is not simply to reconcile these objectives, but rather to use trade policy as an instrument to promote competitiveness.

We should not expect that if there were a sharp economic upswing that these problems would dissolve. Certainly the end of the worldwide recession would ease some of the trade conflicts, but it would not eliminate the central conflicts or the needs to address them. With steel capacity in Europe and the United States at roughly 50%, even after major plant closings, only substantial increase in demand would reduce tensions. However, the loss of export markets, and then the rise in imports as Japan and later the NICs introduced steelmaking capacity, is not tied to the recession. Indeed, a faster pace of world growth could have simply accelerated the pace at which new steel producers pressed on traditional markets. Detroit's problems with Japan would not end even if auto sales picked up. Indeed, without restrictions on Japanese exports, such a boom might simply draw in more imports. Similarly, a pick-up in airplane sales might relieve Boeing's most immediate cash problems, but it would not alter the steady penetration of Airbus into world routes previously monopolized by Boeing. The problem is that when world leadership in aircraft production has in the past shifted, it has done so very rapidly, as one major success can alter the very logic of that competitive game.

Indeed, the difficulty for U.S. policy is that trade struggle is not simply over the size of the pie, so that a growing pie can satisfy all appetites even if some shares are larger. It is at least in part a struggle over the relative position of different countries in the ever-changing system of international comparative advantage and division of labor, a question of which countries will most fully take advantage of the growth possibilities new industries represent. We are likely standing at an historical divide in which the fundamental structure of the economy will be altered. National positions at the end of that transition into

the new world symbolized by telecommunications, automated production, micro technology, and bio-technology will likely be enduring for generations. This creates a real irony. If American industrial power wanes, then the United States cannot act as the hegemon and sustain the rules of the open trading system. If America's competitive position erodes, then industrial development abroad seems a serious domestic threat.

Our response to the mercantilist challenge can only be built within the framework of the current GATT system. That system embodies an international commitment to open trade tha must not be jeopardized. Moreover, the last round of trade negotiations—the Tokyo Round—accepted the notion that domestic economic policies can represent barriers to trade. The problem is implementing such principles when nations gain from stepping around the letter or spirit of the agreements. There is no question, however, of establishing some multi-lateral enforcement mechanism. While the general principle of eliminating non-tariff barriers to trade may be accepted by the advanced countries, there is no agreement as to precisely which policies constitute violations. The Tokyo Round opened to negotiation the reduction of a new range of trade barriers embedded in domestic economic arrangements. The substance of these agreements was left to be bargained later.

Containing the mercantilist threat to the open trading system through negotiations will be a difficult task. Certainly strengthening mechanisms to resolve conflicts would be important and structuring workable safeguard rules that allow countries to establish temporary nondiscriminatory protection when national industries are severely damaged by imports are important objectives. Unfortunately, of the trade conducted under exceptional quantitative agreements, 90% occurred through agreements that were made outside the rules of GATT. Councils for consultation have not resolved tensions over steel, although temporary peace in export finance was achieved. Similarly, greater transparency for government intervention would certainly make the facts of many conflicts clearer. Yet the intention of many governments is to conceal the character of their subsidies, not only from trade partners but from domestic rivals and often legislatures. The obstacles must be clearly understood. First, the very purpose of the mercantilist strategies is to create advantage in critical industries and to promote economic development. These

policies are intended to achieve specific economic objectives, such as a competitive electronics industry or a favorable trade balance in consumer goods, not just to establish favorable conditions for them to occur in the marketplace. Consequently, although all countries would pay serious political and economic prices if the trading system broke up, those countries such as Japan, which have been successful in employing promotional tactics, will have to be actively dissuaded from using them. Moreover, we are often in the position of insisting that foreign economies operate according to American principles.

Second, in the next years all countries are likely to try to prime the growth engine by supporting expanding advanced technology sectors. Even when those policies are not conceived to have an impact on international trade, they inevitably do, and will complicate negotiations. Indeed, all governments in advanced countries intervene in the market and the affairs of companies. The reasons for the intervention, the techniques, and the extent of purposive direction over companies vary, but there is not a neutral market in any country. Balancing these interventions in bargaining will be difficult. How do we measure the benefits to the civilian aircraft industry of American military programs? Can we even decide whether a Defense Department Very High Speed Integrated Circuit (VHSIC) Program will give advantage to American producers or divert resources from more commercially significant approaches to circuit development? How will we respond when Japan wraps promotional programs in military justifications? Similarly, American policy for trade-impacted sectors depends almost exclusively on protection, while European governments resort to financial protection in the form of subsidy. These obstacles are not insurmountable, and quite evidently these questions are the subject of constant negotiation.

Unfortunately there are few tools available to the United States to limit by its own actions other countries' use of mercantile tactics. The single most important threat is to limit access to the American market. American government negotiators must be chary of this weapon even when it is legally available, both because it invites retaliation and because open international markets have been an important instrument of American foreign policy. However, individual firms have been prepared to press the government through private actions. Thus petitions brought

by United States Steel to the International Trade Commission have forced the hand of the government in international negotiations. In electronics, however, dumping and predatory pricing suits have not been successful. The classic case was brought by Zenith against the Japanese color television manufacturers. The length of time the case has taken and the ambiguity of its outcome—the decision turned on a ruling about admissible evidence that is now under appeal—have dissuaded other electronics firms from seeking recourse in civil courts. Houdaille Industries, a machine tool manufacturer, tried an alternative route in a petition through the office of the special trade representative to the president asking that discetionary powers in the 1971 Revenue Act be invoked to deny the investment tax credit to goods manufactured by companies receiving foreign government subsidies or engaged in cartel arrangements. At issue, in one fashion or another, will be the extra-territorial application of American law. That is, these suits attempt to use American law to force foreign firms to behave differently in their own home markets as much as to block specific acts in the American market. The difficulty, of course, is that the closing of American markets excites retaliation and jeopardizes the open trade system even while it provides some temporary relief to American producers.

Domestic policies to assure competitive American firms and to create bargaining chips in trade negotiations will be necessary. First, American policies can serve to dissuade mercantilist tactics abroad. For example, clear evidence that the American government, through the Ex-IM bank, will match the subsidized finance or mixed aid packages offered by competitors, is almost certainly a prerequisite for an agreement that advanced countries not use such techniques as competitive tactics. Similarly, the creation of a government-supported program in advanced electronics would create a chip with which to bargain access for American firms to Japanese government programs.

Secondly, in internationally contested sectors, policies intended to promote competitive adjustment may be necessary, simply as a defensive matter. Unfortunately, in a set of case studies directed by Zysman and Tyson, one major and disturbing conclusion emerged.[99]

> In response to actual or imagined competitive difficulties of individual sectors in international trade, the U.S. government appears to have only one policy

option: the introduction of some kind of protectionist measures. Equally disturbing is the fact that the case studies reveal the ineffectiveness of such measures in promoting the kind of structural adjustments required to improve economic performance under changing international economic conditions.

The question, though, is what policies to adopt in response to problems in a particular sector. Proper aggregate policies are certainly required for the competitive adjustments in all industries. Problems that require a more directed solution can usually be addressed with market promotion policies, that is, policies intended to make markets such as the labor market, the capital market, certain regional markets, or industrial markets, work more efficiently. If the semiconductor industry is faced with a shortage of capital, then policies that make it easier for high technology entrepreneurial firms to raise capital by reforming the capital makets avoid the need for sector or firm specific policies. In some cases problems are particular to a single sector. A shortage of electrical engineers or of public research efforts in electronics cannot be remedied by general policies of education or research and development. Yet in each case noted here, the problem is one of public support of economic infrastructure. Policies to promote competitive development will rarely mean industry or firm specific subsidy policies.

Such positive policies are distinguished by the government's capacity to evaluate the problems of individual sectors, not by the specific tactics introduced to solve them. In the absence of policies to promote adjustment, it is likely that politically expedient policy measures will impede adjustment altogether. Importantly, if the only thing government can offer to industries affected by imports is protection, then coalitions to promote protection will emerge. Government must attempt to construct its own coalitions to support positive adjustment, and domestic policies may be needed to make positive adjustment into a viable and attractive alternative to protection. There is a clear choice—place the weight of policy on the side of defensive efforts to maintain the existing structure of jobs or place trade policy on the side of efforts to assure new high-wage jobs in internationally competitive sectors.

Much of adjustment will be achieved autonomously in the private sector. Indeed, a generation ago Europe quaked

with fear of domination by giant American corporations. Our discussion has highlighted the real power of governments to shape the evolution of international competition. We do not underestimate either the capacities of multinational companies or the significance of private international capital markets. Indeed in the electronics industries the tactics of ATT and IBM will be as crucial as those of any government. A recent arrangement between Intel Corporation, an innovative manufacturer of integrated circuits, and IBM makes this clear. Confronted with a strong challenge from Hitachi, IBM has arranged for both production assistance from Intel and the purchase of Intel components. With this single act, the Intel product and the production strategy embedded in it are moved closer to becoming a world standard. In all likelihood international competition in semiconductors will be dramatically different in the next years as a result.

American trade policy since the war has had a general thrust aimed at creating a free trade system (or a world that favors free trade). "Promotion of American interests abroad came in the form of general rules to encourage the expansion of international trade, which was thought to favor American companies . . . (and alongside these agreements were domestic) policies to support the multinationalization of American business." Yet specific policies for particular sectors have largely protected rather than promoted and have served "to insulate Amerian firms from foreign goods and producers."[100] The range of exceptions to our general commitment to free trade grows, and the number of situations where mercantilist strategies create pressure for additional sectoral actions increases. The policy dilemma thus becomes more acute: how to simultaneously sustain the open trade system and promote the competitive position of American industry. If external protection remains our primary means of responding to the pains of foreign competition, that dilemma will be unmanageable. The only way out will be the capacity to promote the competitive adjustment of American sectors pressed in foreign competition. All debate over technique and the details of policy aside, the choice is basic. We can promote the expansion of internationally competitive sectors and the move of the national economy into the industries of the future, or we can act to preserve the past.

Notes

[0]This study draws heavily on recent books by John Zysman and Stephen Cohen. John Zysman, Governments, Markets and Growth (Cornell, 1983); John Zysman and Laura Tyson, American Industry in International Competition (Cornell, 1983); Stephen Cohen and Peter Gourevitch, France in a Troubled World Economy (Butterworth, 1982).

1. Robert E. Baldwin and David A. Kay, "International Trade and International Relations," in C. Fred Bergsten and Larence B. Krause (Eds.), World Politics and International Economics, (Washington, D.C.: Brookings Institution, 1975).
2. Ibid.
3. Richard N. Cooper, The Economics of Interdependence: Economic Policy in the Atlantic Community (New York: McGraw-Hill, 1968).
4. Ibid.
5. Ibid.
6. Raymond Vernon, "International Investment and International Trade in the Product Cycle," Quarterly Journal of Economics, May 1966.
7. Gaps in Technology, Report to the Third Ministerial Meeting on Science of OECD Countries, March 1968.
8. Estimate from Chase Manhattan Bank, "Chase International Finance," 4 February 1980. There are a variety of studies on the evolution of the Eurocurrency system, beginning with Paul Einzig's The Euro Dollar System (London: Macmillan, 1970).
9. Alfred D. Chandler, Jr., "The United States," in Alfred Chandler and Herman Deems (Eds.), Managerial Hierarchies (Cambridge, Mass.: Harvard University Press, 1980).
10. Alfred D. Chandler, Strategy and Structure (Cambridge, Mass.: MIT Press, 1962).
11. The image was certainly reinforced by Raymond Vernon's Sovereignty at Bay (New York: Basic Books, 1971).
12. This case is argued by Robert Gilpin in U.S. Power and the Multinational Corporation (New York: Basic Books, 1975), as well as by C. Fred Bergsten, Thomas Horst, and Theodore H. Moran in American Multinationals and American Interests (Washington, D.C.: Brookings Institution, 1978).
13. Theodore Moran, Multinational Corporations and

the Politics of Dependence (Princeton University Press, 1974).

14. Chalmers Johnson, MITI and the Japanese Economic Miracle (Stanford, Calif.: Stanford University Press, 1982).

15. John Zysman and Laura Tyson, American Industry; John Zysman, testimony to Joint Economic Committee, May 1982.

16. Zysman, Governments, Markets and Growth: Financial Systems and the Politics of Industrial Change (Ithaca, N.Y.: Cornell University Press, forthcoming). For a discussion of French policy, see Chapter 4.

17. See Louis Turner et al., The Newly Industrializing Countries (London: ALlen Unwin, 1982) and Louis Turner, Living with the NICs (London: Royal Institute of International Affairs, 1980).

18. Zysman, Governments, Markets and Growth, Chapter 2; Johnson, MITI, Chapters 1 and 2.

19. This position is elaborated in an appendix. The argument can be found in John Zysman and Laura Tyson (Eds.), American Industry, and John Zysman, Governments, Markets, and Growth.

20. Chalmers Johnson, MITI.

21. This section is drawn from John Zysman's Governments, Markets and Growth.

22. This was nicely presented by Peter Katzenstein in an unpublished essay presented to the Council on Foreign Relations, "State Strength Through Market Competition," April 1980.

23. Phillip Tresize, with the collaboration of Yukio Suzuki, "Politics, Government, and Economic Growth in Japan," in Hugh Patrick and Henry Rosovsky (Eds.), Asia's New Giant (Washington, D.C.: Brookings Institution, 1976). Tresize cites Norman MacRae, "The Risen Sun," in the Economist, May 27, 1967, as representative of the Japan, Inc. position. Unfortunately, by using a straw man, Tresize undermines the plausibility of his own position.

24. Y. Miyasaki, "Excessive Competition and the Formation of Ktsu" and "The Japanese Type Structure of Big Business," in Kasuo Sato, Industry and Business in Japan (White Plains, N.Y.: M. E. Sharpe, 1980); see Michael Borrus, James Millstein and John Zysman, "Trade and Development in the Integrated Circuit Industry"; Richard Caves, "Industrial Organization," in Patrick and Rosoveky (Eds.), Asia's New Giant.

25. T. J. Pempel, "Japanese Foreign Economic Policy," in Peter Katzenstein (Ed.), Between Power and Plenty: Foreign Economic Policy of Advanced Industrial States (Madison: University of Wisconsin Press, 1978).

26. This is very eveident in the excellent monograph by Ira Magaziner and Tom Hout, Japanese Industrial Policy (Berkeley: Institute of International Studies, University of California, 1981).

27. Chalmers Johnson, "The Internationalization of the Japanese Economy," unpublished paper, Berkeley, 1981.

28. Hugh Patrick and Henry Rosovsky, "Japan's Economic Performance," in Patrick and Rosovsky (Eds.), Asia's New Giant.

29. H. Ueno, "The Conception and Evaluation of Industrial Policy."

30. Ibid., p. 376.

31. Ibid., p. 396.

32. Ibid., pp. 410-415.

33. Johnson, "The Internationalization of the Japanese Economy."

34. The theoretical case is argued in John Zysman and Laura Tyson, "Making Policy for American Industry in International Competition," forthcoming in Zysman and Tyson, American Industry.

35. Pempel, p. 139.

36. Sato, Industry and Business in Japan, "Introduction."

37. Caves, "Industrial Organization," pp. 493-494.

38. This is a widely cited fact and can be found in both Caves, "Industrial Organization," and in Sato, Industry and Business in Japan.

39. Caves, "Industrial Organization," p. 492.

40. See Borrus, Millstein, and Zysman, "Trade and Development."

41. See for example Sato, Industry and Business in Japan, p. xiii.

42. This is argued later, but see Caves, "Industrial Organization," p. 488.

43. Caves, "Industrial Organization"; Ueno, "The Conception and Evaluation of Industrial Policy."; Katzenstein, "State Strength Through Market Competition"; and Tresize, "Politics, Government, and Economic Growth in Japan."

44. See Tresize, "Politics, Government, and Economic Growth in Japan." The support of big business is a core part

of his argument that MITI followed pressures rather than structured the economy.

45. Caves, "Industrial Organization."

46. See Kozo Yamamura, "General Trading Companies in Japan," in Japanese Industrialization and Its Social Consequences (Berkeley: University of California Press, 1976).

47. S. Miyasaki, "Japanese Type Structure," and Yusaku Futasugi, "The Measurement of Interfirm Relationships," in Sato, Industry and Business in Japan.

48. Ibid.

49. Caves, "Industrial Organization," p. 487.

50. Magaziner and Hout, Japanese Industrial Policy.

51. Ibid.

52. Michael Borrus, James Millstein, John Zysman, U.S. Japanese Competition in Semiconductors (Berkeley: Institute of International Studies, University of California, 1982); first released as a study by the Joint Economic Committee.

53. Magaziner and Hout, Japanese Industrial Policy.

54. Richard Copaken, Andrew W. Singer, Oscar M. Garibaldi, and Michael P. Richman, Attorneys for Petitioner, Covington and Burling, Petition to the President of the United States Through the Office of the United States Trade Representative for the Exercise of Presidential Discretion Authorized by Section 103 of the Revenue Act of 1971. Houdaille Industries, Inc., Petitioner, May 3, 1982.

55. John Zysman, Political Strategies for Industrial Order (Berkeley: University of California Press, 1975).

56. The aircraft story is constructed from a number of studies: Boeing Commercial Aircraft Company, "International Competition in the Production and Marketing of Commercial Aircraft" (1982); Barry Bluestone, Peter Jordan, and Mark Sullivan, Aircraft Industry Dynamics (Boston: Auburn Publishing House); Jean Pierre Quittard, Airbus (Paris: Editions France Empire, 1979); Marc Giget, "Analyse en terme d'avantage technologique des relations entre les structures internes de production et les modalites d'internationalisation de l'industrie aerospatiale americaine." These, 3e cycle, Ecole des Hautes Etudes en Sciences Sociales. Paris, Dec. 1979.

57. John Newhouse, The Sporting Game (New York, 1982).

58. Boeing, "International Competition in the Production and Marketing of Commercial Aircraft."

59. This discussion will draw heavily on the dissertation of Stephan Haggard (Berkeley: University of California, 1982); also on Louis Turner et al., The Newly Industrializing Countries (London: Allen Unwin, 1982) and Louis Turner, Living with the NICs (London: Royal Institute of International Affairs, 1980).

60. John Zysman, Governments, Markets, and Growth, Chapter 1.

61. Ibid.

62. See Vinod Aggarwal and Stephan Haggard, "The Politics of Protection in the U.S. Textile and Apparel Industries," and David B. Yoffie, "Adjustment in the Footwear Industry," in Zysman and Tyson, American Industry.

63. See Stephen S. Cohen, James K. Galbraith, and John Zysman, "Rehabbing the Labyrinth: The French Financial System," in Cohen and Gourevitch, France in a Troubled World Economy.

64. Michael Borrus, "The Politics of Competitive Erosion in the U.S. Steel Industry," in Zysman and Tyson, American Industry.

65. Zysman, Governments, Markets, and Growth.

66. The best known discussion is the U.S. Automobile Industry "Report to the President from the Secretary of Transportation 1980," pp. 40-44.

67. The work of Kim Clark for the National Academy of Sciences and of David Friedman, "Beyond the Age of Ford," in Zysman and Tyson, American Industry, are the most relevant.

68. Peter Dunnett, The Decline of the British Car (London: Creom Helm, 1980).

69. "Report to the President."

70. Central Policy Review Staff, The Future of the British Car Industry (London: HMSO, 1975).

71. David Friedman, "Beyond the Age of Ford," in Zysman and Tyson, American Industry, pp. 360-62.

72. The Economist, January 9, 1982.

73. This discussion is drawn from the study by Michael Borrus, "The Politics of Erosion in the U.S. Steel Industry."

74. Ibid.

75. Vinod Aggarwal and Stephen Haggard, "The Politics of Protection in the U.S. Textile and Apparel Industries," in Zysman and Tyson, American Industry.

76. Ibid., p. 252.

77. Ibid., p. 253.

78. Ibid., p. 265.
79. Business Week, July 19, 1982.
80. John Zysman, "The State as a Trader," in International Affairs, April 1978; Cohen and Gourevitch, France in a Troubled World Economy. The articles by Cohen and Kahler are directly relevant here.
81. Business Week, July 19, 1982.
82. This section is drawn from the unpublished article by Francisco Colman Sercovich, "Development Discussion Paper No. 96," Harvard Institute for International Development.
83. Ibid.
84. The Economist, Oct. 2, 1982; and Boeing, "International Competition."
85. Ibid.
86. Boeing, "International Competition."
87. Voies (Paris), No. 12, 1981; The Economist, October 2, 1982.
88. "Airbus-Chronique," La Documentation Francaise, 1982.
89. Giget, "Analyse en terms d'avantage"; Rapport de Harbridge House, Inc., "Sur les subventions du gouvernement des etats-unis a l'industrie aeronautique civile americains," August 1978.
90. The Economist, October 2, 1982.
91. Ibid., for example.
92. le Nouvel Economiste, November 26, 1979.
93. Business Week, January 11, 1982.
94. The Economist, October 2, 1982.
95. This section is based on John Pearce, Subsidized Export Credit (London: Chatham House R.I.I.S., 1980).
96. Ibid., p. 28.
97. Ibid., p. 41.
98. Zysman and Tyson, "American Industry," in American Industry.
99. Ibid., p. 8.
100. Ibid.

Appendix A

CREATING ADVANTAGE*

Traditional trade theory tends to hide the constantly shifting and positively created character of advantage. In so doing, it hides both the real stakes in many trade conflicts and the role that government plays in plotting the course of national industrial development. According to the modern theory of international trade, free trade will encourage countries to export in sectors in which they have a comparative advantage and to import in sectors in which they have a comparative disadvantage. Comparative advantage is usually assumed to depend on relative factor proportions or availabilities, under the assumption that all countries have access to the same production technology and differ merely in their endowments of factors of production. The traditional theory, according to both its Hecksher-Ohlin and its Ricardian versions, posits the existence of mutual gains from free trade accruing "to national trading partners.** Even the country with an absolute disadvantage—a higher domestic cost of production

---

*This section is in large part excerpted from an article written by Laura Tyson and John Zysman, "Making Policy for American Industry in International Competition," to appear in John Zysman, Governments, Markets and Growth (Cornell University Press, 1983).

**The modern variant of comparative advantage theory, referred to in the eocnomics literature as the Hecksher-Ohlin Theory, assumes the existence of two or more factors of production (starting with labor and capital), and argues that countries will tend to export goods embodying their relatively more abundant factors and to import goods embodying their relatively more scarce factors. Ricardian trade theory, in contrast, explains comparative advantage in terms of a single key factor of production, usually labor, although in more recent usage it has been used to explain trade based on natural resource endowment as well. In Ricardian theory, the precise pattern of specialization in production and trade depend on comparative costs measured in terms of the factor of production in question.

for all traded commodities—gains from free trade by importing those goods in which its absolute disadvantage is least. Not surprisingly, then, discussions based on these premises are likely to take a dim view of government policy that is intended to alleviate the difficulties of domestic industries in international trade. Interference with the market, it is thought, can only distort the pattern of free trade; the difficulties of specific industries can be eased only at the expense of national gains.

Traditional trade theory, however, is powerless to deal with questions that do not fit its static orientation and its assumption of perfect competition. As soon as technological evolution and market imperfections are allowed to enter the picture, both its theoretical models and its implied policy prescription become confused. The static nature of trade theory is reflected in the assumptions of fixed technology and fixed factor endowments that are part of both Ricardian and Hecksher-Ohlin theory. For example, the Hecksher-Ohlin theory assumes a given standard production technology to which all countries have access, and also assumes given amounts of factor endowments in each country. Under these assumptions, the theory posits that trade will lead to increasing specialization among trading partners, as both factor prices, and hence production costs of traded goods, converge. The theory treats the determinants of factor endowments as exogenous, and overlooks the important fact that technologies are not the same in all nations producing the same goods. As a consequence, critically important policy issues fall outside the scope of theoretical analysis.

The influence of government policies on the dynamics of comparative advantage over time becomes clear when one allows for the possibility of differing production technologies in different countries. To see this, one need only consider the impact of government policies on the gradual accumulation of physical and human capital. Such policies can gradually turn a temporary competitive disadvantage in capital-intensive or education-intensive industries into a comparative advantage. In short, national comparative advantage is in part the product of national policies over time. There are only a few industrial sectors in which comparative advantage is given in the form of fixed natural resource endowment. In most sectors, comparative advantage rests on relative capital

endowments, and these are the result of accumulated investment.

The role of national policies in the process of creating comparative advantage is forcefully demonstrated in the case of Japan. Policy makers in Japan consciously approached industry policy with the notion of creating advantage and with a view of dynamic change. To understand the economic transition they have engineered, it is first necessary to distinguish between the notions of comparative advantage and competitive advantage. Comparative advantage refers to the relative export strength of a particular sector compared to other sectors in that same economy and it is usually measured after adjusting for the effect of government policies that distort the supposedly autonomous workings of the market. For the purposes of our discussion, competitive advantage refers to the relative export strength of the firms of one country compared to the firms of other countries selling in the same sector in international markets. According to this interpretation, the comparative advantage enjoyed by the firms of a particular country in a particular sector may be the result of the country's absolute advantage in that sector. In contrast to the usual notion of absolute advantage, however, the notion of competitive advantage allows for the presence of economic policies that help or hinder the international performances of different firms. Thus the competitive advantage of the firms of a particular country in a particular market may be the result of a real absolute advantage or they may be the result of a policy-induced and hence distorted absolute advantage. However, policy-induced advantage at one moment can accumulate over time into real absolute advantage, as when abundant capital and protection allowed the investment in steel development that made Japanese producers preeminent.

Whether competitive advantage is real or policy-induced, the competitive dynamics of industry form the link between static and dynamic comparative advantage. Over time, shifts in competitive advantage for particular firms in particular industries can accumulate into a change in national comparative advantage. We must understand that comparative advantage rests on the accumulation of investments, and that a long-run strategy can slowly alter a country's comparative advantage by altering its investment stock. The main point again is that accumulated investment, whether in physical infrastructure or the

infrastructure of related markets and firms, is crucial to determining both competitive advantage at the moment and comparative advantage over time. In a wide range of industrial sectors, a nation creates its own comparative advantage by the efforts of industries and government to establish comparative advantage in the market. Where the eroding competitive position of individual firms unravels a web of domestic infrastructure, the outcome can be a change in comparative advantage. This is especially true in industries dominated by a few large firms. Although there may be no comparative disadvantage underlying the initial competitive difficulties of a particular firm, these difficulties can have a cumulative effect that leads to a national disadvantage. The costs of recapturing a lost market share will go up if the infrastructure, in the form of suppliers and distribution networks, is undermined. The collapse of suppliers, for example, may affect the industry's collective ability to sustain its technological position. As this discussion suggests, in advanced industrial economies, comparative advantage—a concept much in vogue and loosely used—is to be understood as the cumulative effect of firm capacities and government policy choices and not simply as the effect of resource endowments in capital and labor.

Although the determinants of changes in competitive advantage have been largely overlooked in most models of international trade, they have been the focus of at least one branch of trade theory—namely the product-cycle theory. Product-cycle theory focuses on the role of technology and innovation in the dynamics of trade. Developed in the 1960s to explain changes in the pattern of U.S. trade, it states that trade in manufactured goods typically follows a pattern in which a country that introduces a product first becomes a net exporter of it, but then loses its net export position when manufacture of that product becomes standardized and moves to countries that have a comparative advantage in the factor intensities required by the standard technology. In the period before technology becomes standardized, the innovating country enjoys the benefits of imperfect competition that accue to a single seller; and if increasing returns to scale exist, these benefits may persist for some time before competitors are able to enter the market and eliminate the monopoly rents. As might be expected, given the critical role of innovation in the product-cycle theory, and given the apparent links between

innovation and the process of both physical and human capital accumulation, the countries that pursue investment policies in both arenas are likely to be the ones that are product innovators and the ones that earn the resultant rents. Moreover, in addition to investment policies, a variety of national policies—from tax policies on capital income to depreciation policies to support research and development—may influence the pace of technological change, and thus affect a nation's competitive advantage in high-technology industries. In simpler terms, policy can clearly affect the number and variety of products in which a country initiates the product cycle.

Policy will also affect the pattern of trade that each product cycle produces. How long one country will hold an advantage in the production of a particular good—or conversely, how quickly a follower producer can catch up, with competitors—is not determined by some inevitable economic process. Markets can be manipulated, and imperfections created, to influence these outcomes. In these dynamic conditions, there are no automatic mutual gains from exchange.

Consider, first, potential imperfections resulting from production economies of scale. Significant competitive advantages may be gained by the firms of a particular country if their home market is protected and they are allowed to develop a scale large enough to capture cost advantages. Under these protected conditions without foreign competitors, a greater portion of market demand will appear stable to domestic producers. Greater market predictability should lead them to standardize and automate production more rapidly, with an eye to capturing maximum scale economies, because the risk of being stuck with unneeded capacity will be reduced.

Second, learning-curve economies, like production economies of scale, can be the source of competitive advantage in imperfect markets. In the presence of learning-curve economies, rapidly changing final products (such as integrated circuits), quick market entry, and an initial dominant position, may provide the producer with a market advantage during a long phase of the product's life cycle. Or, more ominously for those who follow the leader, early entry may provide advantage through a long phase of an industry's development. Thus as production volumes increase, costs decline because of modifications in product and process technology. This argument applies most

powerfully to the rapidly expanding advanced technology industries. Once again, in sectors where learning-curve economies are likely to be signfiicant, government policy can play an important role in stimulating or hindering their realization in domestic firms and hence in affecting the competitive advantages of these firms in international markets.

The conclusion of this argument, again, is that comparative advantage is a dynamic concept and government policies can alter its pattern over time. Politics will shape market demand as well as the technologies of product and production. Of course, while government may help a few industries gain competitive advantage within several industries or segments of them, this does not mean that the country will have a comparative advantage in all of them or that it will use up the economic breathing space of its partners. However, a single country may lose its competitive advantage over a wide range of industries. Then the risk is that those sectors in which it loses will be high-employment industries in which competitive decline will have a significant aggregate effect on dvelopment and trade. Clearly this is the stake in autos and steel. The real danger is that a country may lose comparative advantage not simply in a single business or even in a range of businesses, but rather in a type of business. In that case, a country may turn onto a slower growth path than its partners. Conversely, a country may lever itself onto a fast route. Japan, for example, can be said to have gained an advantage in industries in which high-volume standardized production gives quality and cost advantages. Comparative advantage in modern mass-production sectors will hinge not simply on wage rates, but on the operational control of complex systems that reduces per unit labor costs substantially. The Japanese, by comparison with Americn producers, for example, have stripped the labor content out of a wide range of products. Arguably, the Japanese government strategy of controlled competition and targeted consumer booms contributes to this advantage. Nonetheless the advantages created are real.

○